

Winter 1977 \$1.95

35MM[®] PHOTOGRAPHY

By the Editors of Popular Photography

COLOR VS. B&W

When
to Shoot
Which

WHAT YOU NEED
TO MAKE YOUR
FIRST COLOR PRINT

DAVID VESTAL UPDATES
THE ZONE SYSTEM

PICTURE EDITORS

What They Buy... How They Think

A BUYERS' GUIDE TO 227
PHOTOGRAPHIC BOOKS

MEET LARRY SCHILLER

The Man Who Brought You Marilyn,
Muhammad Ali, Minamata and
Other Photo Spectaculars!



when you're finished. No more guesswork, because you're in complete control of the situation. If you want to shoot through a microscope, you can do it with the TX. Or, put on a Canon FD telephoto (the TX accepts them all) and go to the races. Whatever you do with it, you'll do it better. And, if you're already a Canon SLR owner, the TX makes an ideal and economical second body.

Canon EF with FD 50mm f/1.4 S.S.C.

Total control. In any light.

The Canon EF created a mild sensation when it was introduced, and is still making friends in all walks of photographic life. Professionals like it for its automatic exposure flexibility and wide range of shutter speeds (30 sec. to 1/1,000 sec.) easy double exposures (at the press of a button) and super-sensitive silicon photo cell. But most of all, they like it for the creative freedom it gives them. Amateurs like it for its

supreme ease of operation. It's a direct link between their image and their creative vision.



Because it accepts all the Canon FD lenses and most of the Canon accessories for shutter-priority automatic exposure operation, it makes even the most complicated photographic job easy. And isn't that the way photography should be?

Canon AE-1 with FD 50mm f/1.8 S.S.C.

A new generation.

This is the automatic exposure electronic system camera everyone would like to make—if they could. Because of new Canon breakthroughs in photographic technology, we can bring you a camera with sophisticated performance at a fraction of the cost anyone thought possible.

It has everything you need for great photography, even if you're just starting out. The AE-1 is completely automatic, giving perfectly exposed pictures in any

light—all you do is pick a shutter speed, focus and press a button.

Together with the exclusive Power Winder A compact motor drive and the Speedlite 155A, the AE-1 is the nucleus of an incredibly compact and versatile electronic system. The Power Winder automatically advances the film and cocks the shutter (up to almost 2fps at high shutter speeds) after each shot, for super fast, responsive photography. And the Speedlite 155A automatic electronic flash is unique because it sets the f-stop (choice of f/2.8 or f/5.6) and shutter speed. No matter what the speed on the shutter speed dial.



Of course, the AE-1 accepts all of the Canon FD lenses for automatic exposure photography, and most of the same accessories as the other members of the Canon SLR family. For a detailed look at this newest Canon arrival, see your dealer soon.





Whether you're an experienced pro, or haven't handled anything more sophisticated than a box camera, Canon has an SLR that will make your photography better, and make you a better photographer.

These SLR's are acknowledged by experts to be some of the finest available in the world. Check out what they have to offer, then check them out in person at your local Canon dealer's. He'll show you why your photography will come up when you come up to Canon photography.

Canon F-1 with FD 50mm f/1.4 S.S.C.

The final step upward.



In only a few short years, the Canon F-1 has taken its place among the great professional 35mm cameras of all time. And it's no wonder, considering the way it's built and what it has to offer the serious photographer, professional and amateur.

The F-1 body is one of the most rugged precision instruments ever built. It has to be, to withstand the rigors of day-in and day-out professional use, under the worst possible conditions.

It's professional in its features too—a true system camera in every sense of the word, with three motorized options, five interchangeable viewfinders and every imaginable accessory. And because the meter is in the camera body, you don't lose it when you change finders. Its metering system is semi-spot, measuring only the central 12% of the finder area. It's a system most professionals prefer, for absolutely certain exposure measurement.

Together with the more than forty Canon FD lenses from fish eye to super-telephoto, the F-1 is Canon's top-of-the-line camera for the photographer who demands the very best there is.

Canon FTb with FD 50mm f/1.4 S.S.C.

For life's realities.

If you're not embroiled in the hectic world of photography that demands motor drives and super-sophisticated versatility, the Canon FTb may be just perfect.

It's a camera professionals and amateurs have taken to in unprecedented numbers, because it offers what few of its competitors can match—solid performance and versatility at a really down-to-earth price.

Compare it with the F-1, and you'll see that there are more similarities than

differences in the way it performs. It shares the same semi-spot metering for sure, precise exposure and the same Canon Auto Tuning (CAT) system for foolproof flash no matter what the light.



Naturally, it accepts all of the fine Canon FD lenses so that in terms of the images it can make, it's right up there with the illustrious F-1. If you want a camera that simply won't let you down, the FTb is the right place to look.

Canon TX with FD 50mm f/1.8 S.S.C.

Great performance.
An eye for value.

Everyone has to start somewhere, and when you've arrived at *your* starting point in the world of SLR photography, take a look at the Canon TX.

It will let you see the world, photographically, as never before, with through-the-lens viewing, focusing and metering. You will see exactly what you're shooting, and how it will look

**Introducing the Canon AE-1.
Like all our SLR's, it's in a class by itself.**



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Metz announces studio lighting that fits in a shoe.

Slip the new Metz Quadrolight® into your camera's accessory shoe, and you have a roomful of lighting effects at your fingertips—with automatic exposure control.

The Metz Quadrolight,® with its unique swivel head, enables you to bounce the flash off the ceiling as well as off the walls to either side. It's ideal for soft-lighting portraits and children, also for illuminating large areas when taking wide angle shots. The Metz Telecomputer assures correct exposure for any of 3 lens apertures. You also enjoy battery-stretching thyristor circuitry, three-hour recharging, and powerful light output plus reliable Metz performance. See and try it at your dealer. Ehrenreich Photo-Optical Industries, Inc., Woodbury, New York 11797 



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Can you think of any other camera that can take half a million exposures in a row without a single fault?

Can you think of any other camera manufacturer who'd bother to make such a test?

In a recent study, Hasselblad was named by eight out of ten top commercial photographers as the medium-format system used in their work. And, it was named ten to one over the next leading brand. Precision in manufacture and testing is one of the reasons Hasselblad is the overwhelming choice of professional photographers.

At Hasselblad, making sure its cameras live up to Hasselblad standards of precision—standards professional photographers have come to expect—is a full-time job. Hasselblad cameras are virtually hand-crafted for reliability. Every camera that leaves the factory has already undergone extensive shutter testing (500 shots). Certain cameras never leave; they are selected at random, brought to the laboratory and torture-tested on a robot machine. These cameras are operated indefinitely at the rate of 2,500 exposures

per hour; after every 10,000 exposures, all components are thoroughly inspected. It's not uncommon to reach a half a million exposures without a fault.

The entire Hasselblad system reflects the same philosophy of reliability. All 14 Carl Zeiss lenses, 9 viewfinders, 9 magazines and over 200 accessories are interchangeable with all Hasselblads made since 1957, and will continue to be compatible with all future Hasselblads. Despite the breadth of the system, it will never be complete enough for Hasselblad. Each year, as the photographer faces new challenges, Hasselblad adds new accessories of the same legendary precision and reliability.

At Hasselblad, dedication to perfection continues to be a way of life, as it has been for over a quarter of a century. And, it's no bother.

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The system preferred by the serious photographer.

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LETTERS

Gatewood accolades

Thanks for presenting Charles Gatewood's *Wall Street* (Summer 1976). Mr. Gatewood's photo essay is eloquent in its use of concrete, symmetrical geometrical structure, and cold grey tones.

Jim Vacola, Toronto, Ontario, Canada

Naked comments

The article *Naked Truth* was great—pictures beautiful. Congratulations!

Nancy Finer, New York, N.Y.
I have just laid out \$1.95 for your Summer 1976 edition. I assume that people buy your magazine for information as I did. Hattersley's *What is Visual Literacy?* might come under this heading, though I doubt it, but Alice Williams should confine herself to writing for *True Confessions*—pages 29, 30, and 32 are just a batch of sophomoric crap! I don't care about Pat Grantz and her lover, I don't even care if she has one, and Karen Skelton didn't have to record her film data—no one is going to try to reproduce such junk. As for Michael Keller, he may have taken two courses at S.V.A., whatever that is, but he sure as hell didn't learn much.

It is easy to see why you only publish four times a year [sic]. If you can't do better you should quit altogether and we'll all subscribe to *Playboy* and *Playgirl*, which cost less and have a lot better naked truths. You owe every customer a rebate.

Harold A. Smiley,
Enderby, British Columbia, Canada

It isn't easel

Your article, *The Color Printer's Bible*, in the summer issue was an education. I have never found so much knowledge on color printing compressed into so few pages. It is a super piece.

However, your comments on easels are naturally of concern to me, and I would like to explore it further. The focal yellow finish on our Saunders easels is the result of 30 years' experience in this specialized area. Our easels are probably used in 90 percent of professional darkrooms, and I can safely say that millions of color prints have been made on our easels, not to mention the thousands of prints that we have produced in testing and retesting every model. With that background, let me say that I have never received one complaint about the yellow finish

re-exposing through the back of color paper. I did, however, receive one special order from a Canadian school for black easels because they felt as you did, but were unable to demonstrate the problem. They were using Cibachrome, and I went to the trouble of making a "harlequin" easel painted half yellow and half black in order to do some testing and I could not see any difference.

Now, obviously, it is much easier to paint our easels matte-black than focal yellow. We would save a pretty penny by going to all black, so I am not fighting for the status quo. But needless to say, a black easel is extremely inconvenient to use, since you can't focus on the easel itself and the easel has a lower overall visibility under darkroom conditions. You may remember that at one time, the Saunders easels were, in fact, black, and the yellow finish was our "whitewall-extra-cost-option." We found that the demand for yellow easels was so much greater, and we dropped the black model.

Steven Hess, President, Saunders,
Rochester, N.Y.

Biblical message

In the Summer 1976 issue, I found that figures 17 and 18 were missing, thereby rendering the article, *The Color Printer's Bible*, nearly impossible to understand. These figures are referred to in the section entitled, "How a latent image is recorded."

Normand E. Lavigne, New Bedford, Ma.

Nadler replies:

In the last column on page 41, the reference to figure 19A should really be to figure 18. The reference to figure 18 should be to figure 21A.

I would like to disassociate myself from the oddly written claptrap, concerning the manner in which humans are purported to perceive color, which was wantonly inserted as the lead material in the portion of my book that appeared in the summer issue. While space requirements may well have dictated cutting much of my material, they could hardly have justified removing my valid explanations.

If any readers would like to know how humans perceive colors, I suggest they forget the explanation that appeared in *35-MM PHOTOGRAPHY* and see Chapter II of my forthcoming book when it is published by Amphoto in 1977.

35-MM PHOTOGRAPHY

Sigma lenses for action. Match your competitive spirit with zoom lenses that can capture the excitement of the game. For photographs that are filled with the tension, the triumph and the fun of sporting events, we recommend either or both the Sigma 39-80mm f3.5 mini zoom and 80-200mm f3.5 tele zoom.

The Sigma 39-80mm mini zoom focuses to less than eleven inches without closeup accessories. It's one of the smallest zooms made—only 3 1/4 inches long—yet covers wide, normal and telephoto angles of view from 56° to 30°. Matching this flexibility with superb sharpness, this is one of the most useful optics you can mount on your SLR.

The Sigma 80-200mm zoom

picks up where the 39-80mm leaves off. It continues to give you fast lens speed, compact lens size—only seven inches long—and macro-close focusing to 16 inches... without tubes or accessories. These Sigma zooms let you track athletes anywhere a game takes them and still fill your SLR's frame.

All 25 Sigma lenses, from the 16mm f2.8 full frame fisheye to a choice of two 500mm mirror-telephotos are multi-coated for high contrast and flare reduction. Each wide angle, zoom, macro zoom, macro normal, macro tele and telephoto is computer designed and crafted from rare-earth optical glass.

Get on the scoreboard with Sigma optics...and value. At your favorite dealer. Or write for Lit/Pak 26, Ehrenreich Photo-Optical Industries Inc., Woodbury, N.Y. 11797. In Canada: Magna Marketing Co., Ont. 



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THE PHOTOGRAPHER'S BOOKSHELF

The complete guide to photographic books—from how-to to what is

By HARVEY V. FONDILLER

For the beginner, photographic books provide basic information and inspiration; for the advanced worker, guidance in specialized techniques; and for the professional, knowledge that can be turned into profit. For all, a book can be a proxy teacher and an incentive to greater accomplishment.

Whenever a photographic process or technical advance is announced, a book on the subject soon makes an appearance. Only a month after the daguerreotype process was made public in 1839, Daguerre's own handbook was published. Since then, an enormous number of books have been printed, covering every conceivable aspect of picture-taking and darkroom work.

Books have had a great influence on photography—commercially, technically, and aesthetically. For many decades, Kodak's *How to Make Good Pictures* helped to popularize the snapshot hobby, and the *Leica Manual*—first published in 1935—did much to promote not only the Leica but 35-mm photography in general. Henri Cartier-Bresson's *The Decisive Moment* (1952) influenced the picture-making of a generation of photographers.

In 1954, when *POPULAR PHOTOGRAPHY* published a "100 Best Books" list, one-fourth of the titles were imported, mainly from England. Some of them were translated from French, German, or Dutch. Today, it seems strange that as recently as a generation ago

Who knows how to ruin outdoor shots? The shadow knows.

Without Konica's Daylight/Synchro Flash.



For years, shadows that streak across foreheads and noses have ruined the great shots you almost got. But this is the year of the new Konica Auto-S3. And the end of the shadow.

Konica has engineered the world's first fully automatic 35mm rangefinder camera with Daylight/Synchro Flash for balanced "fill-in" light in outdoor shots.

Just slip the Konica X-20 or other electronic flash onto your Konica Auto-S3, align the shutter-speed mark with the flash index in the viewfinder, and that's it! The flash and the existing daylight are automatically balanced for perfect evenly lit shadow-free exposures of the subject *and* the background every time.

The Auto-S3 ends guesswork, and endless calculations. It's so automatic that it's like having the sun behind the camera, wherever and whenever you shoot.

But the Auto-S3 is more than ingenious, it's also compact and lightweight, perfect for traveling, and professional in many ways. It features a superb 6-element high speed f/1.8 medium wide angle lens like pro's prefer, shutter speeds to 1/500 sec, and many, many more features which you

With Konica's Daylight/Synchro Flash.



can see at your local Konica dealer.

Hold the Auto-S3 up to your eye and you'll agree it's the most ingenious camera to come along in years.

Without a shadow of a doubt.

Or write for descriptive booklet:

Konica Camera,
Woodside, N. Y.
11377.  Berkey

In Canada: Garlick
Films Ltd., Ontario.



KONICA AUTO-S3

The World's Only 35mm With Balanced Daylight/Synchro Flash.

American photographers relied on foreign authors for books on such topics as chemistry, exposure, lighting, optics, twin-lens cameras, 35-mm technique, flash photography, color photography, filmmaking, infrared photography, photomicrography, and stereo photography. At the time, *The History of Photography* by J.M. Eder, translated from German by Edward Epstean, was the most complete general history available in English.

In the present list, virtually all of the authors and publishers are American. Only a few of the 1954 titles remain, in updated editions: *The Encyclopedia of Photography*, *Photo-Lab-Index*, *Amateur Photographer's Handbook*, *Lighting for Photography*, *Camera and Lens*, *Leica Manual*, *Photography and the American Scene* (reprint), and *Rollei Manual*. Several of the 1954 authors are on our list with new books, including Wyatt Brummitt, John S. Carroll, Andreas Feininger, and Peter Gowland.

The prospective book-buyer should be aware that many "how-to" guides are rewritten, cannibalized versions of previous works on a particular subject. There's also much duplication of material. (One formerly popular series of camera manuals contained identical contents except for data on the specific camera.) Many books contain borrowed information, and some are by inexpert writers who lack photographic experience. I recall reviewing a movie book in which the information was not only inaccurate but outdated by a decade.

The world's largest photographic publisher, Eastman Kodak, has produced hundreds of excellent books on basic and advanced picture-taking, darkroom techniques, and specialized subjects. Kodak provides authoritative information in a wide range of titles—everything from *Photolab Design* to *Ultraviolet and Fluorescence Photography*. A free catalog is available from the company (see address list at end of this article).

There's a manual for practically every camera under the cloudy-bright. Some are sponsored by the manufacturer or distributor. The principal manuals are listed here; many others are available at camera stores or from book distributors.

If the publisher has sold or otherwise disposed of all copies of a book, it becomes "out-of-print" and can no longer be ordered from bookstores. Not infrequently, however, publishers dispose of unsold copies of a slow-selling tome by selling them to a "remainder" house such as Marboro Books or Publishers Central Bureau. These companies reduce the publisher's price by 50 to 90 percent and list the book in their direct-mail



catalogs, which are available free.

Remainder houses are an inexpensive source of quality books. Among the titles recently listed as "remainders" (or at reduced prices in publishers' catalogs) are: *Self-Portrait, U.S.A.*, by David Douglas Duncan, \$4.98 (originally \$18.50); *Creative Photography: Aesthetic Trends, 1839-1970*, by Helmut Gernsheim, \$5.98 (\$15); *Photoanalysis*, by Dr. Robert U. Akeret, \$2.98 (\$9.95); *Photographers of the Frontier West*, by R. W. Andrews, \$3.98 (\$12.95); and *Victor Keppler: Man + Camera*, \$7.98 (\$19.50).

A comparatively recent development in photographic publishing is the proliferation of books devoted to the work of individual photographers. The "Photographers—Monographs" section includes representative books (though not portfolios) by or about significant photographers of the past and present.

A photographer's library should also include magazines. If you buy them, why not keep 'em? They're useful for reference as well as for reviews of the latest books. The indexes available for several periodicals are a valuable aid to research.

You can build your library by purchasing new books and by buying used ones at bookstores, flea markets, and rummage sales. Out-of-print books can be acquired by swapping with friends, by browsing in antiquarian bookshops, and by attending auctions. Several dealers offer catalogs that list old books at prices that range to about \$50 for contemporary imprints to well over \$1,000 for rare items.

One always hopes to find a "sleeper" (a great bargain). Sometimes these can be discovered at auction sales; if you're the only person to recognize a book's true value, you may be able to buy it for a trifle. This doesn't happen often, but it's a thrill worth waiting for.

Books can acquaint you with the best in camera technique and art. On these pages, you'll find titles that will help you to appreciate and enjoy the many pleasures of photography.

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You Pay Only \$4.49



TV Guide
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32 Issues/ \$7.39



Stereo Review
Reg. Rate: 12 Issues/ \$7.98
You Pay Only \$3.99



Sports Illustrated
Newsstand Rate: 26 Iss./ \$26.00
You Pay Only \$7.97



Time
Newsstand Rate: 25 Iss./ \$25.00
You Pay Only \$12.50



Esquire
Newsstand Rate: 8 Iss./ \$12.00
You Pay Only \$6.00



Business Week
Newsstand Rate: 51 Iss./ \$51.00
Pay \$21.50 (Reg. Rate)



Car & Driver
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General, History, & Picture Books

REFERENCE

The Encyclopedia of Photography.

Willard D. Morgan, general editor; revised edition—Harvey V. Fondiller, executive editor (Greystone Press, 1974, \$4.98 per volume). A 20-volume encyclopedia, alphabetically arranged, with more than 450 entries and contributions by 140 authorities.

The Focal Encyclopedia of

Photography (McGraw-Hill, 1970, \$16.95). One-volume edition of the somewhat outdated British reference work; alphabetically arranged, with 276 contributors and 1,750 illustrations.

Life Library of Photography, by the editors of Time-Life Books (Time-Life Books, 1970–72, \$9.95 per volume). A 17-volume set, copiously illustrated, covering the entire field of photography. Titles are: *The Camera, Light and Film, The Print, Color, Photography as a Tool, The Great Themes, Photojournalism, Special Problems, The Studio, The Art of Photography, The Great Photographers, Photographing Nature, Photographing Children, Documentary Photography, Frontiers of Photography, Travel Photography, Caring for Photographs.*

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Beaumont Newhall. Van Deren Coke, editor (George Eastman House, 1971, \$5.95). A bibliography of the noted historian's writings, 1925–1972.

Photographic Literature

(1727–1959), edited by Albert Boni (Morgan & Morgan, 1962, \$35). Listing of 12,000 books, pamphlets, and periodical articles under 1,200 subject headings, with emphasis on technical areas. Supplemental references and author index.

Photographic Literature

(1960–1970), edited by Albert Boni (Morgan & Morgan, 1972, \$35). More than 2,900 subject headings encompass history, processes, apparatus, and applications. Index of 6,000 authors.

HISTORY—GENERAL

The History of Photography From 1939 to the Present Day, by Beaumont Newhall (New York Graphic Society, 1974, \$7.50*). Revised edition of an authoritative reference work, with more than 200 illustrations.

The History of Photography

1685–1914, by Helmut and Alison Gernsheim (Oxford University Press, 1969, \$37.50). Originally published in 1955, this classic work is indispensable. With 390 illustrations.

The Magic Image, by Cecil Beaton and Gail Buckland (Little, Brown & Co., 1975, \$25). Traces the development of photography through images and more than 200 individual photographers.

The Photograph: A Social History, by Michel Braive (McGraw-Hill, 1966, \$16.95). Explains the impact of photography on aesthetics and society; includes works by masters of the medium, as well as contemporary posters, drawings, and paintings.

Photography and the American Scene, by Robert Taft (Dover, 1964, \$5). Reissue of the 1938 edition—a survey of photography's development in the United States.

Photographers on Photography, edited by Nathan Lyons (Prentice-Hall, 1966, \$6.95). An anthology of 39 essays by 23 photographers, covering the period from 1886 to the present.

The Picture History of Photography, by Peter Pollack (Abrams, 1969, \$30). Revised edition contains 742 illustrations of and by important figures in photography, with biographical and technical data.

HISTORY—SPECIAL FIELDS

Airborne Camera: The World from Air and Outer Space, by Beaumont Newhall (Amphoto, 1969, \$12.50). The development of aerial photography; illustrated with 100 photos and rare prints.

Animals in Motion, by Eadweard Muybridge (Dover, 1957, \$12.50). A selection of Muybridge's sequence photographs of animals and birds, originally published in 1887.

Camera Work: A Critical Anthology, edited by Jonathan Green (Aperture, 1973, \$17.50*). Selections from the 50 issues of the famed quarterly published by Alfred Stieglitz, 1903–1917. With biographies of contributors, bibliography, and chronological index.

Early War Photographs, by Pat Hodgson (New York Graphic Society, 1974, \$12). A half-century of wars (Crimean, American Civil, Franco-Prussian, and Boer).

Commentary on the photographers and their methods.

Gettysburg: A Journey in Time, by William A. Frassanito (Scribner's, 1975, \$5.95*). Detailed analysis of the most important photographs of the famed Civil War battlefield, 1863–1866.

Images & Enterprise: Technology and the American Photographic Industry, 1839 to 1925, by Reese V. Jenkins (Johns Hopkins University Press, 1975, \$20). A study of the business, technical, and social factors that enabled the United States to gain international leadership in the photographic industry.

L. J. M. Daguerre: The History of the Diorama and the Daguerreotype, by Helmut and Alison Gernsheim (Dover, 1969, \$4). Definitive account of the circumstances that led to the invention of photography.

Mirror Image, by Richard Rudisill (University of New Mexico Press, 1971, \$30). The cultural, commercial, and social aspects of the daguerreotype in America.

Modern Photojournalism: Origin & Evolution 1910–1933, by Tim N. Gidal (Collier, 1973, \$5.95*). Surveys the development of photojournalism from its beginnings to its flowering in the 1920s.

One Hundred Years of Photographic History, edited by Van Deren Coke (University of New Mexico Press, 1975, \$17.50). Essays in honor of historian Beaumont Newhall, by 21 authorities, cover a variety of technical and aesthetic subjects.

The Painter and the Photograph, by Van Deren Coke (University of New Mexico Press, 1972, \$15*). Traces the relationship between photography and painting, with hundreds of paired illustrations.

HISTORIC TEXTS (FACSIMILES)

1839 An Historical and Descriptive Account of the Daguerreotype and the

Fuji Film has an enviable record of incorporating "world firsts" in its cameras to offer higher performance. Original research and impressive technology have made all four of these Fujica SLR cameras demonstrably superior. And with four fine models to choose from, you are sure of finding the quality camera that precisely meets your particular needs.

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Fujica SLR cameras are brought to you by the largest manufacturer of photographic products in Japan, assuring quality and reliability of the highest order.

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Diorama, by Louis Jacques Mandé Daguerre (Morgan & Morgan, \$10).
1849 The History and Practice of the Art of Photography, by Henry H. Snelling (Morgan & Morgan, \$6.95).
1855 Photographic Pleasures, by Cuthbert Bede (Amphoto, \$7.95).
1863 The Silver Sunbeam, by J. Towler (Morgan & Morgan, \$13.50).
1864 The Camera and the Pencil, by Marcus A. Root (Helios, \$10).
1869 Pictorial Effect in Photography, by Henry Peach Robinson (Helios, \$3.95).
1878 A History and Handbook of Photography, by Gaston Tissandier (Arno, \$23).
1881 Wilson's Photographics, by Edward L. Wilson (Arno, \$19).
1882 The Photographic Studios of Europe, by H. Baden Pritchard (Arno, \$15).
1889 Naturalistic Photography, by P. H. Emerson (Amphoto, \$12.50).
1901 Photography as a Fine Art, by Charles H. Caffin (Morgan & Morgan, \$13).

COLLECTING PHOTOGRAPHICA

A Century of Cameras, by Eaton S. Lothrop, Jr. (Morgan & Morgan, 1973, \$12). Photographs and descriptions of 130 cameras (1839–1940) in the collection of the International Museum of Photography at George Eastman House.

Caring For Photographs (Time-Life Books, 1972, \$9.95). A guide to preserving and displaying photos, with techniques of copying and restoring daguerreotypes, ambrotypes, and other types of images.

Collecting Photographica, by George Gilbert (Hawthorn Books, 1976, \$19.95). How to start, build, and maintain a collection of images and equipment of photography's first 100 years. With 225 photographs and 75 antique line drawings.

Collecting Vintage Cameras: Vol. 1, The American 35mm, by Kalton C. Lahue and Joseph C. Bailey (Amphoto, 1972, \$6.95). A brief history and illustrated directory of American 35-mm cameras.

Collectors' Guide to Nineteenth-Century Photographs, by William Welling (Collier, 1976, \$7.95*). Descriptions and illustrations of daguerreotypes, ambrotypes, tintypes, lantern slides, albums, and other collectibles.

Directory of Collectable Cameras (Vol. I) (Photographic Memorabilia, 1972, \$5.95). Photos and data on more than

300 cameras (1930–1950).

Directory of Collectable Cameras (Vol. II) (Photographic Memorabilia, 1975, \$8.95). Detailed data and photos of 86 cameras (1930–1975).

The Illustrated History of the Camera, by Michel Auer (New York Graphic Society, 1975, \$47.50). Technology and technique of landmark cameras in many formats, with period engravings, diagrams, and 600 color and black-and-white illustrations.

ANTHOLOGIES—HISTORICAL

American Album (American Heritage, 1968, \$5.95). Photographs depicting how America appeared in the 75 years ending with World War I.

Art History of Photography, by Volker Kahmen (Viking, 1974, \$15.95). More than 350 pictures by significant photographers, with discussion of their aims and achievements.

Great Photographers (Time-Life Books,

1971, \$9.95). The work of 68 photographers, from the early period to the present, with notes on technical and artistic problems.

The Image Makers: Sixty Years of Hollywood Glamour, text by Paul Trent (McGraw-Hill, 1972, \$20). The cinema's best still photographers reveal the flesh and fantasy of the world's movie capital.

The Last Empire (Aperture, 1976, \$19.95), texts by Clark Worswick and Ainslie Embree. Photography in British India, 1855–1911, with pictures by professionals and British army officers, ranging from famine victims to maharajahs.

Looking at Photographs, by John Szarkowski (Museum of Modern Art, 1973, \$17.50). A hundred pictures from the collection of The Museum of Modern Art, with comments on each photographer.

The Nude in Photography, text by Arthur Goldsmith (Playboy Press, 1975, \$19.95). Portrays the many manifestations of the nude since the 1850s, in color and black-and-white pictures by 70 photographers.

Reality Recorded: Early Documentary Photography, by Gail Buckland (New York Graphic Society, 1974, \$12.50). Covers the period until the 1880s, when dry plates were introduced; includes work by English, French, and American photographers.

Women of Photography: An Historical Survey, by Margery Mann and Ann Noggle (San Francisco Museum of Art, 1975, \$8.95). Pictures by 50 women photographers, with text and a checklist.



HOW THESE BOOKS WERE SELECTED

The titles listed here were chosen after a careful study of hundreds of volumes in all fields of photography. In several areas, numerous fine books have been omitted from this concise listing. Selections were made on the basis of excellence and on value in relation to cost. A few titles are out-of-print, but most are currently available. (An asterisk after the price denotes: paperbound; also available in hardbound.)

After all you go through for the right shot, you still don't have the picture. Not until you decide who is going to process your film.

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pictures, we can make duplicate slides, prints, or movies. Prints from slides. Prints from a movie frame. Cropped enlargements up to 16 x 20 in. There's a lot more. Ask your photo dealer.

Or send for booklet no. A3-21. Write Eastman Kodak Company, Dept. 412L, Rochester, N. Y. 14650.



Kodak color processing. It completes the picture.

Photo by Daniel Rayland. Negative and enlargement by Kodak.



ANTHOLOGIES—CONTEMPORARY

The Best of Life, 1936–1972

(Time-Life Books, 1973, \$7.95*). A selection of photographs from *Life* magazine, including the work of many noted photojournalists.

From the Picture Press, by John Szarkowski (Museum of Modern Art, 1973, \$3.95). Notable photos exemplifying the major categories of news pictures: celebrities, ceremonies, good news, confrontations, and disasters.

The Concerned Photographer, edited by Cornell Capa (Grossman, 1968, \$5.95*). Photos, biographical data, and statements of Werner Bischof, Robert Capa, André Kertész, David Seymour, and Leonard Freed.

The Concerned Photographer 2, edited by Cornell Capa (Grossman, 1972, \$5.95*). Includes the work of Marc Riboud, Roman Vishniac, Bruce Davidson, Gordon Parks, Ernst Haas, Hiroshi Hamaya, Donald McCullin, and W. Eugene Smith, with biographical data and comments on the pictures.

The Family of Man (Museum of Modern Art, 1955, \$3.95*). Pictures from the famous exhibit created by Edward Steichen at The Museum of Modern Art.

In This Proud Land, by Roy E. Stryker and Nancy Wood (New York Graphic Society, 1973, \$8.95*). America 1935–1943, as seen in Farm Security Administration photographs by Lange, Evans, Shahn, Rothstein, and others.

Light and Lens: Methods of Photography, edited by Donald L. Werner (Morgan & Morgan, 1973, \$7.95). An anthology of images and artifacts derived from old and new photo technology.

The Look Book, edited by Leo Rosten (Abrams, 1975, \$35). Pictures from *Look* magazine, covering the years 1957 to 1972. With 680 illustrations.

The Woman's Eye, edited by Ann Tucker (Knopf, 1973, \$6.95*). Female photographers, including Abbott, Arbus, Morgan, Bourke-White, Johnston, Kasebier, Lange, and Dater; with commentary.

Women See Woman, edited by Wiesenfeld, Kalmus, Katchian, and Ripp. (Crowell, 1976, \$6.95). Pictures by 90 women, portrayed in various roles and moods.

PHOTOGRAPHERS— MONOGRAPHS

Berenice Abbott: Photographs (Horizon Press, 1970, \$9.95).



Ansel Adams (Morgan & Morgan, 1971, \$14)

(Atget). **The World of Atget**, by Berenice Abbott (Horizon Press, 1964, \$25).

Diane Arbus (Aperture, 1971, \$9.50*).

Werner Bischof (Grossman/Viking, 1974, \$5.95*).

Edouard Boubat (Macmillan, 1973, \$5.95*).

The Photographs of Margaret Bourke-White (Bonanza, 1972, \$12.50).

Mathew Brady: Historian With a Camera, by James D. Horan (Crown, 1955, \$4.98).

(Brandt) **Shadow of Light**, by Bill Brandt (Viking, 1966, \$12.95).

Brassai (Museum of Modern Art, 1968, \$6.95).

Wynn Bullock—Photography: A Way of Life (Morgan & Morgan, 1973, \$14).

Harry Callahan (Museum of Modern Art, 1967, \$6.95).

Julia Margaret Cameron, by Helmut Gernsheim (Aperture, 1974, \$12.50*).

Robert Capa (Grossman/Viking, 1974, \$5.95).

Paul Caponigro (Aperture, 1972, \$5.95*).

(Cartier-Bresson). **The World of Henri Cartier-Bresson** (Viking, 1968, \$16.95).

(Edward S. Curtis) **The North American Indians** (Aperture, 1972, \$6.95*).

(Dater/Welpott). **Women and Other Visions**, by Judy Dater and Jack Welpott (Morgan & Morgan, 1975, \$9.95).

(Duncan). **Yankee Nomad**, by David Douglas Duncan (Holt Rinehart and Winston, 1966, \$18.50).

(Eisenstaedt) **The Eye of Eisenstaedt**, by Alfred Eisenstaedt and Arthur

Goldsmith (Viking, 1969, \$4.98).

P. H. Emerson: The Fight for Photography as a Fine Art, by Nancy Newhall (Aperture, 1975, \$12.50*).

Elliott Erwitt: The Private Experience (Alskog, 1975, \$4.95*).

Frederick H. Evans (Aperture, 1973, \$7.50*).

Walker Evans (Museum of Modern Art, 1972, \$7.95*).

Andreas Feininger (Morgan & Morgan, 1973, \$14).

(Gardner). **Photographic Sketchbook of the Civil War**, by Alexander Gardner (Dover, 1959, \$4.50).

(Haas). **In America**, by Ernst Haas

ON READING

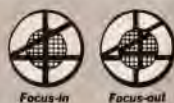
In some quiet place, you read about a new technique, or study an album of great photographs. You ponder the alchemy that has produced images from the cameras of generations of photographers. Near and far from home, they have found halcyon landscapes, scenes of magnificence and terror, and pictures of people who pass in the never-stopping parade of life. . . .

You turn the pages, seeing what others have seen, experiencing the swift recognition of tranquility, adventure, sensuality, tragedy—all interpreted through a lens. You add those experiences to your experiences, those perceptions to your perceptions. And tomorrow you may see the world with sharper eyes and deeper feeling, through your own lens.



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The new Miranda dx-3 is an engineering breakthrough. Because it was designed to give *more* features and accessories, all in *less* space. Look at what the dx-3 has to offer, and you'll know why we call it the fully packed compact.



Q.I.S.* Our exclusive 4-way focusing system. Split image focusing: Vertically, Horizontally or on any linear plane. Plus a microprism finder for fast, accurate focusing. So whatever the shape of your subject or under any light condition you can easily focus without changing the orientation of your camera.



Advanced electronic circuiting system, with electromechanical shutter design for accurate exposure times. Unlike most cameras, the dx-3 is programmed for 2 second and 4 second exposures.



Miranda's no-guesswork **LED metering system**. The lighted diodes tell you if the shot is underexposed, overexposed or "OK." So your exposure is always on the button. Then the bright viewfinder tells you what speed and aperture you've chosen. And your batteries are working at full power.



The mirror box of the dx-3 is **flocked black** to eliminate light bounce. The film transport system is specially designed to keep film taut and advance smoothly. The film guides are highly polished and finely machined to eliminate scratching.



Unlike any other camera, Miranda's **self-timer** has a flashing red light that tells from across the room that it's working.



For very long exposures, just **lock** the **shutter** open and walk away. There's even more.

Extras like fingertip controls for easy metering. A bright, information-full viewfinder that shows you focus, shutter speed, aperture and correct meter reading at a glance.

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**AIC Photo, Inc., fully guarantees Miranda for three (3) years from date of purchase against defects in workmanship or materials, and camera will be repaired or serviced (free of charge, provided returned postpaid securely packed, plus a \$2.50 charge for mailing, handling and insurance)
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Why buy photographic books? Because they can increase your knowledge and enjoyment of photography.

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(Viking, 1975, \$42.50).

Lewis W. Hine, by Judith Mara Gutman (Grossman/Viking, 1974, \$5.95*).

William H. Jackson, by Beaumont Newhall and Diana E. Edkins (Morgan & Morgan, 1974, \$14).

Art Kane: The Persuasive Image (Alskog, 1975, \$4.95).

(Kertész). **Sixty Years of Photography 1912-1972**, by André Kertész

(Grossman, 1972, \$19.95). **J'Aime Paris**, (Grossman, 1974, \$22.50).

(Koudelka). **Gypsies**, by Josef Koudelka (Aperture, 1976, \$14.95*).

Dorothea Lange (Museum of Modern Art/Doubleday, 1966, \$6.95).

(Lartigue). **Diary of a Century**, by Jacques Henri Lartigue (Viking, 1970, \$27.50).

Duane Michals: The Photographic Illusion (Alskog, 1975, \$4.95*).

Barbara Morgan (Morgan & Morgan, 1972, \$14).

(Newman). **One Mind's Eye**, by Arnold Newman (Godine, 1974, \$7.95*).

Timothy O'Sullivan, America's Forgotten Photographer, by James D. Horan (Doubleday, 1966, \$15).

(Penn). **Worlds in a Small Room**, by Irving Penn (Grossman/Viking, 1974, \$16.50).

Jacob A. Riis: Photographer and Citizen, by Alexander Alland, Sr. (Aperture, 1974, \$9.95*).

Erich Salomon: Portrait of an Age (Collier, 1975, \$7.95).

(Sander). **Men Without Masks**, by August Sander (New York Graphic Society, 1973, \$27.50).

David Seymour—"Chim"

(Grossman/Viking, 1974, \$5.95).

Aaron Siskind: Photographer (George Eastman House/Horizon, 1965, \$7.50).

W. Eugene Smith: His Photographs and Notes (Aperture, 1969, \$7.95).

(Steichen). **A Life in Photography**, by Edward Steichen (Doubleday, 1963, \$12.95).

Alfred Stieglitz: Photographer, by Doris Bry (Boston Museum of Fine Arts, 1965, \$15).

Paul Strand (2 vols.; Aperture, 1972, \$50).

George A. Tice: Photographs 1953-1973 (Rutgers University Press, 1975, \$12.50).

(Uelsmann). **Silver Meditations**, by Jerry N. Uelsmann (Morgan & Morgan, 1976, \$9.95*).

James Van Der Zee (Morgan & Morgan, 1973, \$14).

Roman Vishniac (Grossman/Viking, 1974, \$7.95*).

(Weegee). **Naked City**, by Weegee (Arthur Fellig). Reissue of 1945 edition. (Da Capo, 1976, \$12.95).

Dan Weiner (Grossman/Viking, 1974, \$5.95*).

Brett Weston: Voyage of the Eye (Aperture, 1975, \$9.50).

Edward Weston: The Flame of Recognition (Aperture, 1975, \$7.50*).

Edward Weston: Fifty Years, by Ben Maddow (Aperture, 1974, \$50).

ANNUALS

Black Photographers' Annual (Distrib., Light Impressions, \$5.95).

The British Journal of Photography Annual (Distrib., Amphoto, \$17.95).

Color Photography (Ziff-Davis Publishing Co., \$1.95).

Creative Camera International Year Book (Coo Press Ltd., \$20).

The German Photographic Annual (Hastings House, \$31.50).

Invitation to Photography two editions per year. (Ziff-Davis Publishing Co., \$1.95).

Minolta Mirror (Minolta Corp., \$3).

Photography Annual (Ziff-Davis Publishing Co., \$1.95).

Photography Directory & Buying Guide (Ziff-Davis Publishing Co., \$1.95).

Photography Year (Time-Life Books, \$11.95).

The Photography Year Book (Fountain Press/Morgan & Morgan, \$19.95).



The photographer's choice.



Braun makes the widest range of thyristor flash units in the world.

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So the question isn't which electronic flash.

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Braun 28BVC, for low-cost Braun power.

It delivers up to 3,000 flashes, from one set of AA batteries. It costs what you'd expect to pay for a non-thyristor electronic flash, and it's as beautifully built as any Braun flash ever was. You even get full wide-angle coverage, a built-in computer indicator light (to show you whether you've got enough light available for the shot), and a choice of f/stops like all Braun VarioComputer electronic flash units.

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The lowest-cost way to enjoy the benefits of Braun automatically-measured built-in bounce flash. (The first portrait you shoot will show you what they are.) Long-lived, rechargeable nickel-cadmium batteries and wide-angle coverage, too, along with AC capability.

Braun 42VC, for power and more power.

As many as 2,400 flashes per charge, a guide number of 70 for ASA 25; that ought to light up your eyes, and anything else you want lit. A built-in indicator light; wide-angle coverage; built-in bounce, AC capability. (It is a Braun flash, after all.)

Braun 40VCR, for photographers in a hurry.

It recharges from dead to full strength in an hour, and recycles in as little as a third of a second. A choice of f/stops; bounce; wide-angle coverage; indicator light. For advanced amateurs this is the ultimate flash.

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The fastest and most powerful computer flash units in the world: F900, with nickel-cadmium batteries and RL915, with 510V powerpack. 10,700 BCPS; 120° swivel head; integrated wide-angle diffusing lens. Optional equipment: a Braun VarioControl External Sensor, that lets you hook together as many as four extension lamps, and gives you a choice of 8 full f/stops. Compact enough to take into the wilds of Locationland; versatile enough to be a whole studio lighting system. Every pro we've shown it to has been impressed.

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Technical Books

REFERENCE

Current 35mm Practice, edited by William L. Broecker (Morgan & Morgan, \$20). A loose-leaf manual with operating data and procedures for 35-mm photography. Annual supplements of new and replacement pages keep the information up-to-date (\$4 per year).

International Glossary of Photographic Terms (Kodak, 1973, \$8.95). A reference guide in English, German, Spanish, French, Italian, Dutch, Portuguese, and Swedish.

Photo-Lab-Index, edited by Ernest M. Pittaro (Morgan & Morgan, \$35). A massive loose-leaf compendium of technical information, indexed for quick reference. Quarterly supplements cost \$12.50 per year.

Kodak Advanced Photo Book Collection (Kodak, \$14.25). Six of Kodak's professional data books in a loose-leaf binder, with information on black-and-white photographic papers, copying, and portrait techniques.

Kodak Professional Photoguide (Eastman Kodak Co., \$8.95). Useful in solving technical problems on location. The text, 20 tables, and eight dial calculators provide data on many picture taking situations.

Photographic Lab Handbook, edited by John Carroll (Amphoto, 1976, \$9.95*). A comprehensive data book that includes technical information on films, papers, processing, slides, motion pictures, and optics.

The Photography Catalog, edited by Norman Snyder (Harper & Row, 1976, \$7.95). A potpourri of information on "the best" equipment, materials, techniques, and resources.

DICTIONARIES

Dictionary of Contemporary Photography, by Hollis N. Todd and Leslie Stroebel (Morgan & Morgan, 1974, \$9.95*). Definitions of terms currently used in all areas of

photography; includes diagrams.

The Focal Dictionary of Photographic Technologies, by D. A. Spencer (Focal Press/Amphoto/Prentice-Hall, 1973, \$39.95). Concise definitions of specialized terms in photographic science and technology. Illustrated.

FUNDAMENTALS

The Amateur Photographer's Handbook, by Aaron Sussman (Crowell, 1973, \$8.95). A comprehensive guide to picture-taking, with sections on color photography and darkroom techniques.

The Craft of Photography, by David Vestal (Harper & Row, 1975, \$12.50). A manual on black-and-white photography for beginners and advanced students.

How to Make Good Pictures (Eastman Kodak Co., \$1.50*). Latest edition of the famed handbook that has introduced millions of beginners to picture-taking.

Photography, by Charles Swedlund

(Holt Rinehart & Winston, 1974, \$10.95*). A solid text covering the history, materials, and processes of photography.

Photography Is . . ., by Wyatt Brummitt (Amphoto, 1973, \$10.95). An introductory text on photographic principles, with practical information on every aspect of the subject.

ABSTRACT & EXPERIMENTAL

Fun in Photography, by Lida Moser (Amphoto, 1974, \$9.95). Imaginative techniques in taking and processing pictures, from making double exposures and montages to abstracts.

The Photographic Illusion, by Duane Michals (Alskog, 1975, \$4.95*). Shows how a photographer can make images based on psychological and spiritual feelings.

Special Effects, by Ken Biggs (Petersen, 1975, \$3.95). A "how-to" guide to producing unusual images by creative use of camera and darkroom techniques.

ADVANCED PHOTOGRAPHY

Camera and Lens: The Creative Approach, by Ansel Adams (Morgan & Morgan, 1976, \$13.50). An integrated approach to the use of camera equipment and darkroom techniques, emphasizing functional and creative concepts.

The Here's How Book of Photography (Eastman Kodak Co., \$10.95). More than 400 color pictures illustrate 39 articles on a broad range of photographic subjects.

continued on page 102





**Ricoh
Singlex.**
If you're
breaking into
35mm and
you want a break.

A lot of camera for not much money.

You get an accurate behind-the-lens meter; a match-needle, so you're always in control of your own photographic destiny.

Because the camera accepts standard screw-in lenses, you have literally hundreds to choose from, including the superb Rikenon system: everything from fisheye to monster telephoto.

You get shutter speeds to a thousandth, so you can stop the fastest action, a self-timer, and a dozen little touches that make the difference between a great piece of equipment that doesn't cost much, and a camera that just doesn't cost much.

And it's all yours for around two hundred dollars.

Which means, if you're looking for value, you can now stop looking.



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most semi-automatics.

This is all the 35mm SLR you ever hoped for, at a better price than you ever imagined.

The metering system works like your eye works: instantly, automatically, accurately, without a thought from you (unless you want to override). You set the shutter speed to suit the action, concentrate on composition and the camera does the rest. It's the automatic system that works the way most pros work, because it makes the best photographs. (Especially in fast-action situations.)

You can choose automatic EE lenses from our Rikenon system, ultra-wide to ultra-long, and tailor your camera to your kind of photography. Or pick from the practically endless list of screw-mount lenses the Auto TLS EE accepts: they won't be automatic, but they'll be better than they are on any ordinary camera.

You get a professional satin-black finish, hot shoe, shutter speeds to a thousandth. And more.

Imagine. No more matching needles, no more over- or under-exposed pictures — and no big price.

Ricoh vs. Ricoh.





My Favorite Books

In 40 years of collecting photographic literature, I've acquired more than 2,500 books and 1,000 magazines, which occupy 150 shelf-feet in my library. A collector is known by the books he keeps—and I've kept all of mine!

Here are a dozen of my favorites, listed in the order in which they were acquired.



How To Make Good Pictures. 21st edition, revised 1935. Eastman Kodak Co. This, the first photographic book I ever bought, is the cornerstone of my collection. Like countless other camera enthusiasts, I learned the fundamentals from it. My camera was then my parent's No. 1A Autographic Kodak, with which I made snapshots on a cross-country auto trip in 1936. The following year, I took a Kodak 616 on a European bicycle trip.

Leica Manual, by Willard D. Morgan and Henry M. Lester. Third edition (revised); first printing, September 1937. Morgan & Lester, 1938. Having bought a Leica Model C with Hektor f/2.5 lens in 1938, the next step was to get a *Leica Manual*. (A quarter-century later, I wrote two chapters for the *Manual*'s 15th edition.)

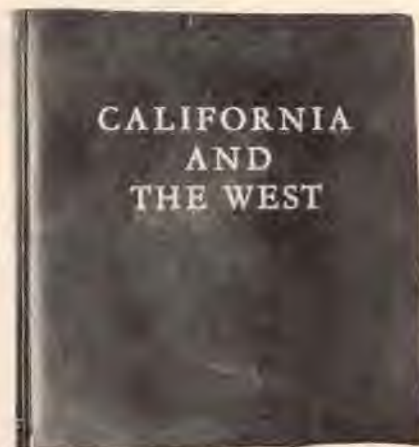


Miniature Camera Work, edited by Willard D. Morgan and Henry M. Lester. First edition. Morgan & Lester, 1938. On my seventeenth birthday I gave myself this present, and wrote my name in it with the date.



California and the West, by Charis Wilson and Edward Weston. First

edition. Duell, Sloan and Pearce, 1940. My first book of photographs . . . and the \$5 it cost seemed like a sizable sum at the time. Thirty-five years later, I referred to it when writing a review of the Edward Weston Retrospective at The Museum of Modern Art.



Photographing in Color, by Paul Outerbridge. Random House, 1940. The 15 tipped-in color plates are superb examples of photographic art and craftsmanship. I bought the book soon after publication because color processes (Dufaycolor, Kodachrome, Chromatone, wash-off relief, and Carbro) intrigued me.



Photography 1839-1937, with an introduction by Beaumont Newhall. The Museum of Modern Art, 1937. In 1943, at an auction, I bought some books from the library of Arnold Genthe, whom I had met shortly before his death the previous year. Among them was this volume, on the flyleaf of which Genthe had penciled his name and address. Published in an edition of 3,000 copies, it is the bound catalog of a 1937 exhibition of the same name at The Museum of Modern Art.

35-MM PHOTOGRAPHY



Photography and the American Scene, by Robert Taft. Macmillan, 1938. My copy of this classic history formerly belonged to Arnold Genthe. After reading it, I wrote to Prof. Taft at the University of Kansas and received a cordial reply to a question about photographic history.



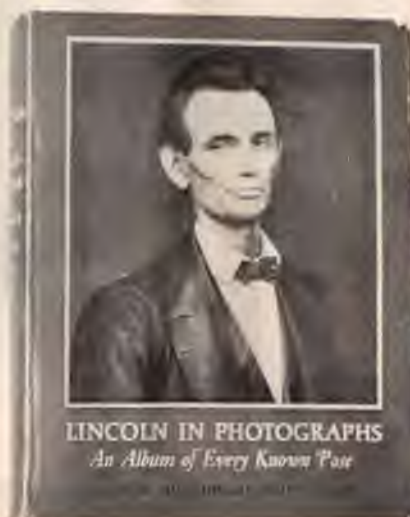
Eine Ganze Welt Gegen Uns ("A Whole World Against Us: A Picture History of the World War"). Foreword by Werner Beumelburg, edited by Wilhelm Reetz. 31-42 Thousand (Second Edition). Berlin: Ullstein, 1937. I picked up this volume in the abandoned town library of Preuschdorf, an Alsatian village, during combat operations in November, 1944. A remarkable example of biased picture editing, it gives an insight into the power of photographs to foment, rather than prevent, war.

WINTER 1977

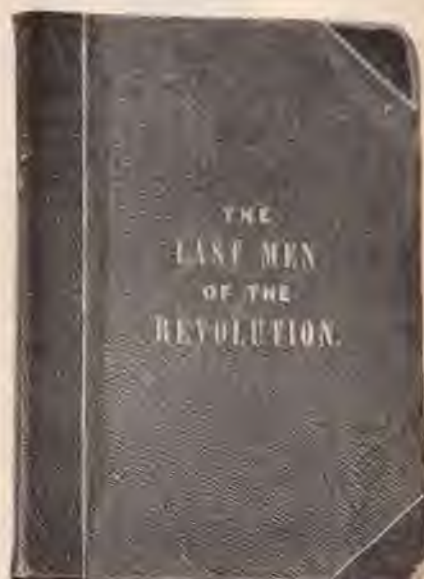


Petit Musée de la Curiosité Photographique, by Louis Cheronnet. Paris: Editions Tel, 1945. While stationed in Berlin during 1946, I won a trip to Paris in an essay contest for soldiers of the U.S. Army occupation forces. Roaming the Left Bank in search of photographica, I came across this album in a bookstore on the Rue de Medicis. It contains 193 old photos of circus freaks, people of Paris, and sporting and social events. Most of the pictures were from the collection of Georges Sirot, whom I later visited in his apartment on the Rue Jacob and in his country home.

Lincoln in Photographs: An Album of Every Known Pose, by Charles Hamilton and Lloyd Ostendorf. University of Oklahoma Press, 1963. Lincoln posed for 30 cameramen on 61 occasions, and this book includes all the images and variations. He once wrote to a portrait artist who had not met him: "The next best thing . . . would be to carefully study a photograph." We can do that with this book, which presents a composite portrait of his visage over the years. My copy was inscribed to me by co-author Hamilton.



The Kodak Museum. Harrow: Kodak Ltd., 1947. When I visited the Kodak Museum in 1972, curator Brian Coe presented this catalog of the collection to me. Later we visited Lacock Abbey, home of William Henry Fox Talbot, so this book reminds me of pleasant hours spent in quest of photographic history.



The Last Men of the Revolution, by Rev. E. B. Hillard. Hartford: N.A. and R.A. Moore, 1864. This 64-page volume, purchased at auction, includes six albumen prints of the last surviving soldiers of the American Revolution. The subjects were from 101 to 105 years old when they were photographed. The tipped-in 2 1/16 x 3 1/4-inch portraits are by unidentified photographers. Looking at their faces is a two-century trip into the past. (See POPULAR PHOTOGRAPHY, July 1976.)



LARRY SCHILLER: Packager

... the man who brought
you Marilyn, Muhammad Ali, and other
photographic spectaculars

By DAN McCOY

"Everybody who is anybody in photography has a Larry Schiller story."

John Durniak at the 1973 Wilson Hicks Conference in Miami.

As Muhammad Ali danced about the ring in Manila taking Joe Frazier's face apart round by round, Larry Schiller, on assignment for *Time*, stood shoulder-to-shoulder with the mass of motorized photographers at ringside, firing away. Between rounds, one of the photographers allegedly turned to Schiller and asked, "What are you doing here? I thought you were a big publisher and movie maker. But here you are hanging over the ring sweating like the rest of us."

Schiller says he was shaken by the question. "What am I doing here?" he remembers wondering. He was then preparing to produce two movies for television, and had just published W. Eugene Smith's book on *Minamata* and Wilfred Sheed's book on *Muhammad Ali*. He coauthored and published Albert Goldman's brilliant book, *Ladies and Gentlemen, Lennie Bruce* and Norman Mailer's very controversial and very successful book on Marilyn Monroe, *Marilyn*. He has also published eight volumes in a continuing series of photo books called *Masters of Contemporary Photography*... masters such as Bert Stern, Art Kane, Annie Liebovitz, Mary Ellen Mark, Elliott Erwitt, Duane Michals, and Will McBride. He had conceived and directed the still montages for the movies *Butch Cassidy and the Sundance Kid* and *Lady Sings the Blues* and made his first movie... a documentary on the actor Dennis Hopper called *The American Dreamer*. The TV movie he produced and directed, *Hey, I am Alive*, for ABC, had just been aired, and one month later he would win an Academy Award for his editorial concept and direction of *The Man Who Skied Down Everest*.

Before publishing the books and making the movies, Schiller was well known as a journalist working mostly for *Life* magazine and *The Saturday Evening Post*. It was Schiller who broke the Manson murder trial wide open by obtaining and publishing the confession of Susan Atkins. It was Schiller who slipped up a hospital service elevator to tape Jack Ruby's deathbed confession that he alone was involved in Oswald's death. When riots erupted in Watts, Schiller was on the scene for *Newsweek*, working with a black assistant who carried an extra speedlight to backlight the riot pictures and a loaded .45 to protect them while they worked.

So in the midst of his later movie-making and book-publishing activities, Schiller decided to go home again and asked to cover the fight for *Time*. The old journalistic neighborhood had not changed very much... but Schiller had. He came away feeling he was the only photographer at ringside that night who didn't belong there.

He may have been right. When I first met Schiller, he was staying in a suite overlooking New York's Central Park. The suite was costing him \$75 a day and he had been there two months. He was trying, among other things, to pull off the largest deal in book publishing history... a \$2-million advance for a Frank Sinatra biography to be written by Norman Mailer. Schiller, often described as one of the best phone men in the business, was constantly answering or making phone calls. Someone called wanting to make Smith's *Minamata* into a movie—apparently on the condition that Schiller produce but not direct the movie. Another editor called trying to obtain the foreign magazine rights to the Patty Hearst story (this was before her capture), and refused to believe that Schiller was not working secretly on the exclusive. Schiller made some calls, too: to the West Coast office of Alskog, his company, to talk to one of his lawyers; to a book publisher; to order flowers for







During his years as a photojournalist, Schiller documented many of the nation's milestones. Above, mud-covered Marines train realistically for Vietnam at Naval Amphibious Base, San Diego. Taken in mid-'60s, for *Paris-Match*. Far left, while Nixon was running for governor of Calif. against Edmund Brown (and lost) in the early '60s, he had been using evangelist Billy Graham as an adviser, perhaps accounting for the preacherlike attitude in which Schiller caught him (taken for *Satevepost*). The closing of Alcatraz was symbolized by this last of the prisoners there (for *Paris-Match*).

"I thought he was about as interested in the book as I was, and I will always cooperate with a person like that." — Eugene Smith



PACKAGER *continued*

Time's Rita Quinn, then recovering from an operation. In fact, when any day's action threatens to lose momentum, there is always a phone nearby that Schiller can use to get things going again. "I just can't stand sitting around and doing nothing," he has said. "I have an ego and that's what drives me to the mountain."

Schiller's mountain has storm clouds over it now, and there's been enough thunder and lightning to drive an ordinary man to seek shelter. But with all the adjectives people have used to describe him, no one ever chose "ordinary." Honey Bruce was in the midst of suing for \$3 million, claiming Schiller used heroin to extract the information for his best-selling book on her husband, Lenny (the case did not come to trial). Wilfred Sheed, author of Schiller's *Muhammad Ali*, was cancelling out personal appearances for the book's promotional tour because he doesn't like to do television. So many copies of the \$19.95 book were allegedly being stolen from bookstalls that the publishers were actually discussing giving bookstores chained display copies, and some books were being returned because a faulty binding run had caused the covers to tear off. Frank Sinatra would finally turn down the Mailer book, possibly angered over the author's mention of Sinatra in *Marilyn*.

The biggest blow would come when Morgan & Morgan, distributors of Schiller's photography books, went into Chapter 11 allegedly owing Schiller \$80,000 and tying up 100,000 books. Schiller is obviously the kind of man who operates on thin margins. Break a link in this chain, and things start collapsing. But Schiller had been wiped out before, and no one in the business would bet against a Schiller comeback. As Norman Goldberg, the inventor of the Leica motor, whose patents Schiller licensed for manufacture at the time by Technical Photomation Instrumentation, says, "He's one of the most undefeatable people around. Even when he's down, kicked and bleeding, his guts spilled all over the sidewalk, he still threatens to get up and kill . . . and given any chance he will."

Anyone who can take a few old Marilyn Monroe pictures gathering dust in photographers' files and turn them into a multimillion dollar adventure can certainly rise from any sidewalk and fly again. The Marilyn project began with a phone call when a local Los Angeles gallery called to ask if Schiller would be interested in exhibiting pictures of Marilyn with four other photographers. Schiller, who had photographed Marilyn a number of times, recalls that his answer was, "Fine, you can have my pictures; but why don't we do more?"

The exhibit grew from 5 to 15 photographers, and Schiller began preparing travel exhibits. He called on Will Hopkins, former art director of *Look*, to help with the design and manufacturing, and he sold two of his paintings, a Chagall and a Picasso, to raise the needed capital. Knowing museums would never exhibit commercial photography, Schiller broke new ground by turning to department stores! Direct mailing pieces were sent out to more than a thousand stores throughout the world. For \$5,000, Schiller offered not only to give them the Marilyn photographs to exhibit, but also 2,500 free Marilyn posters they could sell for \$2 each to recoup the \$5,000. The first exhibit opened in Tokyo, where 40,000 people paid 80 cents each (paying to see exhibits is the custom in Japan), having been lured by advertisements such as one Marilyn billboard nine stories high. One of the 40,000 was Schiller himself, who flew over to spend a week watching the people's reaction to his pictures. Much in the way a play will be tried out in Boston before daring the stages of New York, Schiller had opened in Japan before moving on to America. For the next couple of years, the shows ran successfully in this country as well as in Europe.

Through it all, Schiller retained total control of his property, even down to furnishing every store with blueprints showing exactly how and where to hang the exhibit. The 15 photographers who chose a percentage and royalties over a straight payment for their pictures were beginning to make a lot of money. With hundreds of thousands flocking to see the exhibit, CBS's *60 Minutes* covered the story and *Life*



"It was Schiller who slipped up a hospital service elevator to tape Jack Ruby's deathbed confession that he alone was involved in Oswald's death."—Dan McCoy

PACKAGER *continued*

and *Newsweek* ran Marilyn Monroe covers. Schiller was elated with the coverage. The covers had given the Marilyn project "credibility," which Schiller had known would come if he maintained a quality exhibit and made Marilyn seem alive. No one wanted to look at pictures of a dead person. "I knew if the project was to succeed she had to be alive, vital. You had to feel like the pictures were taken yesterday and not 10 years ago."

Walking into a publisher's office with the covers under his arm, Schiller asked for a \$50,000 advance to publish a book on Marilyn Monroe! (Schiller had arrived at the figure after hearing that the highest advance ever paid for a photographic book had been \$46,000 for Stanley Tredick's book on JFK just after the President's death.) Schiller wanted to beat that record. There followed a lot of negotiation with a lot of publishers. The highest offer was \$25,000. Schiller says he kept saying, "It's worth \$50,000 or it isn't worth a penny." That became, as Schiller put it, "My normal sentence on the subject." He was finally offered the \$50,000 under the condition that the writer be hired out of the \$50,000. Schiller, however, insisted the \$50,000 be for the pictures only. The publisher relented and went off to find the cheapest writer he could find who knew anything about Marilyn. Upset over the prospect of a poorly written text to accompany the pictures, Schiller picked up the phone and called three other publishers, saying to each, "You can have the book if you can get Gloria Steinem, Norman Mailer, or Roman Gary to write the text." Three weeks later Grosset & Dunlap came up with Mailer!

"I threw a little party to promote the book with Grosset & Dunlap's money . . . even though we still didn't have a book," Schiller says, "1,200 people showed up and the party cost \$24,000." (Schiller associates 20 percent of the book's success with that party.)

As Mailer wrote, Schiller continued to build a Marilyn industry. He sold Hugh Hefner 600,000 Marilyn calendars, Simon and Schuster a Marilyn date book, and to others a jigsaw puzzle ("there are Rembrandts and Van Goghs on jigsaws," Schiller rationalized), posters, a collection of silk screens, and a deck of playing cards. It was decided not to put out ashtrays. John Durniak of *Time* once described Schiller as "a guy who latches onto an idea and will not let it go until he sees it through." Schiller himself was to say during this period, "I don't know where I have been and I don't really know where I am going. I am just living in a moment-to-moment reality and enjoying it." The book's final layout session seemed a classic ending to the book project. Mailer and Schiller, arguing over pictures, ended up swinging at each other in the Friendship Room of United Airlines at Kennedy Airport!

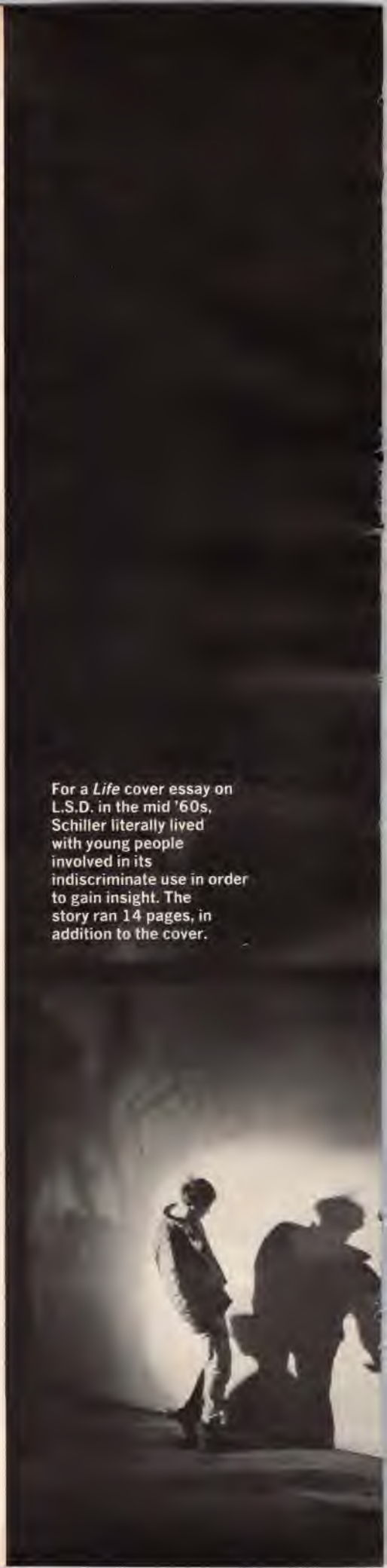
Schiller was still not ready to *let go*. He took a ride over to 20th Century Fox, walked in, and said, "We are going to open exhibits, sell books all over the U.S., and we want a piece of all Marilyn Monroe movies that you release in the future!" Their reply was, Schiller recalls, "Get the hell out of here!" Schiller, never responding well to "no," again gave his pitch: "I am going to open exhibits all over the world and those exhibits are going to be reviewed on a cultural, photographic, and artistic level. There will be stories promoting interest. Every time I sell an exhibit I am going to insist that the department stores put in two full pages of ads and people are going to come see the exhibit."

"So why should you get a piece of the movies?" he was asked. Schiller said, "If you want my list of where those exhibits will open up so you can go ahead and prebook your movie the week after the exhibit closes . . . I want a piece of your movie."

Schiller didn't get a piece of any movie, but Fox did pay a royalty to have their record of Marilyn boxed in. Schiller photographs, and stills from the exhibit were later used in Fox movies.

Money from the Marilyn project is still coming in. Those 15 photographers who

For a *Life* cover essay on L.S.D. in the mid '60s, Schiller literally lived with young people involved in its indiscriminate use in order to gain insight. The story ran 14 pages, in addition to the cover.







"...if the project was to succeed, she had to be alive, vital. You had to feel the pictures were taken yesterday, not 10 years ago." —Larry Schiller



PACKAGER continued

chose to trust Schiller and gamble on royalties (Avedon, for one, did not) are presently each about \$13,000 richer! What had started out as a simple local exhibit of five photographers had become a multimillion dollar property! One couldn't help but remember one of Marilyn's last interviews when she said, "The trouble with being a sex symbol is you become a thing . . . I hate being a thing." The whole Marilyn episode created an uproar in the press and the publishing world. While the financial success of the project was never denied, many felt the Marilyn package was an exercise in pure exploitation. The Marilyn controversy only added to Schiller's growing reputation as a manipulative journalist. *Time* noted the book's birth, giving its weight as 3 pounds and 3 ounces. "More than a million pounds of paper would be used in the first American printing!" *Time* also used the term "chrome yellow journalism" in describing the book, and mentioned that Schiller had "been cursed with a sightless eye" from his earliest years. After argument over a *Time* designed Monroe-Mailer cover, Durniak had said, "If you don't like our cover, go design your own." Schiller, calling in Will Hopkins, did just that. "I thought the *Time* designed cover made Marilyn look dead and Mailer alive," says Schiller. "Our design made Marilyn look alive and that was my concept."

Schiller's projects do deal in large sums of money and such sums cause resentment. "Many people think I make a lot more money than I do. The truth is, I put a lot of money into my projects." But it's the tactics as much as the money that causes resentment. Stephanie Wolf, Schiller's right-hand lady, often disagrees with Schiller's tactics. "Stephanie criticizes me and tears me to pieces 80 percent of the time because she thinks things are dishonest or deceptive. She comes from a background with a very strict moral center. O.K., 60 percent of the time, in my opinion, I think she is entirely wrong. But there's 20 percent of the time she is right. That's 20 percent of the time I would never look at the situation that way. She's never been exposed to hard business. She has no idea how malicious corporations and business people can be. They love you today . . . they forget you tomorrow. They don't give a damn. Do you think the computer that punches out Gene Smith's check gives a damn about Gene Smith? Do you think they publish my books because they like me? No, they publish my books because of how much they figure they can make from the books. When I do business with Tony Snowdon [Antony Armstrong-Jones, Earl of Snowdon] (Schiller ran his exhibits) the relationship is business. I am not going to bullshit. He's Tony Snowdon, I am Larry Schiller, and we are both in business to make some money. That may be the whole problem with me. I don't want to sit in a bar drinking, wearing a mask, take some guy out, wine and dine. I just don't believe in that. I am not saying I can't be polite or enjoy someone's company. I just don't believe in wearing a mask for ulterior motives. People don't want to admit their motives right away. I am writing to Frank Sinatra offering him a million dollars . . . bang . . . that's the deal. It's called *bottom line* . . . where are we at, what do you really want, what can we give you and what is the price going to be. That's a business world. People can question me because I am an individual. If I were a corporation, they wouldn't question the ethics as much because they would feel many people made the decision and therefore it must be ethically correct. A lot of the criticism comes about because an individual has made the decision. You can challenge the individual's morality. It's harder to challenge a corporation's morality."

Corporate morality was to become the issue for a project that would carry Schiller into yet another adventure—this time with W. Eugene Smith. Schiller had never met Smith, but he shared the deep respect of the photographic community toward the man. It was that respect that prompted Schiller to immediate action when he heard that Jim Hughes, then editor of *Camera 35*, had received a call from Smith in Japan indicating he was desperate, broke, and in need of immediate medical treatment that he felt he could only get back in the States. Hughes had been alarmed by that

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From Schiller's show biz portfolio, a variety of portraits, all taken on *Life* assignments. Above, six months prior to his death, Buster Keaton appeared genuinely morose. Far left, Bette Davis was caught candidly during a time involving her daughter's marriage. Barbra Streisand posed more formally for a shot, though not selected for publication by *Life*, that was used on the cover of many European magazines.

PROFILE:
JOHN
GUTMANN

American Icons

By MARGARETTA K. MITCHELL

We all know how difficult it is to see ourselves, personally or culturally . . . to detach ourselves enough to be objective. Perhaps it takes a foreign eye to see beyond the familiar objects of everyday life to find their meaning as expressions of a culture. Such an eye has John Gutmann, painter, professor of art, and photojournalist, who immigrated to the United States—more specifically, California—in 1933.

"I saw this country with the fascinated eyes of a European immigrant, a painter trained in the art world of German Expressionism, holding a camera for the first time in a country completely new to me. I think most American photographers would not have noticed the same things I did. They would have accepted them as normal, whereas I saw them as strange. The enormous individualism of America was freedom to me; literally, my freedom as citizen. I loved this country. Its crazy oddities were beautiful and refreshing to me."

John Gutmann landed in a new western culture of vast open spaces built around the use of the automobile. He was both amazed and amused by what he saw. "The automobile symbolized the freedom of my new country; everyone seemed to have a car here. The American attitude was different from the European, whose car was a status symbol. To have a car was to be rich. For example, in my childhood we had a car, one of the first cars in Breslau, where I was born. My father, a cattle rancher, often went on long trips into the country. It was a sky blue open car. We always had a chauffeur. My father wouldn't drive it himself. Actually, he couldn't drive it.

"Cars in Europe were always kept well, polished, tuned-up, and considered as objects of value. Something to have. Here people wouldn't wash their car for weeks; it might even be junked in a field, it might be written on, covered with personal symbols on the dashboard,

decals on the windows; it was utilitarian and yet treated personally, maybe even given a name, like a cowboy and his horse. The whole car culture seemed bizarre to me—so I simply photographed things I saw in my own way as if they were the surrealist 'found objects!' "

Gutmann expresses the American attitude toward life through the object of a car, showing at once the sense of humor, the obsession with the machine, the inventiveness, the "craziness" he found here. He recalls that on the freighter coming through the Panama Canal, two American students told him, "You'll find out, we Americans are crazy." "'Crazy,' for me," Gutmann adds, "meant 'insane.' I didn't



"He felt it even more clearly in Hollywood, where he photographed the new drive-in restaurant, the new drive-in theater, the gas station in the shape of an aeroplane, the car proclaiming 'God is Love.' That, to John Gutmann, is great, American imagery."

understand the slang, but I soon found out what they meant. Maybe many Americans seem eccentric and crazy to Europeans. I don't know. But when I came here, it was exotic. Like going to a primitive African village and studying the strange ancestor statues there, I came here and studied the cult of the automobile, the skyscrapers, the outrageous signs on buildings, and cars used to advertise everything. No one in Europe would have dared to have written on a car—I suppose the American 'crazy' means a sense of humor, absurd, like the Marx brothers. A kind of outrageous quality, like 18 students in a telephone booth. That was not Europe. Today, of course, is different. The American craziness is everywhere."

There is in the work of John Gutmann a curious juxtaposition of opposites that operate on several levels at once. He says himself that "you find often in my photographs a contrast between two things—either two faces, or objects, or an object and a person. I realize that I have made strange combinations of things not normally together. I was aware of L'Antréamont, the poet so much admired by the surrealists, who called it the meeting of the sewing machine and the umbrella on the operating table—to express a kind of absurdity which is part of life." It was that absurdity he felt when he saw the car elevator in Chicago. It might as well have been a totem pole. He felt it even more clearly in Hollywood, where he photographed the new drive-in restaurant, the new drive-in movie theater, the gas station in the shape of an aeroplane, the car proclaiming "God is love." That, to John Gutmann, is great American imagery.

Gutmann was born in 1905 in Breslau, Silesia, a part of Germany that later became Poland. He received his actual visual training there in the traditional techniques of European drawing and

35-MM PHOTOGRAPHY



First drive-in restaurant anywhere, 1935



Parking in a park. San Francisco, 1935



Garage elevator tower, Chicago, 1936



Indian high school band travels through desert, Arizona, 1937



Reach, 1938



Coming out of the desert, 1938



Oakies on their way west, Wyoming, 1936



Good luck charm, Harlem, New York City, 1936



Cord, Harlem, New York City



First drive-in theater anywhere, 1935

painting at one of the most liberated state academies of the Weimar Republic. His work as a painter came directly out of the tradition of European Expressionism as it flourished there in the early 20th Century. There was an emphasis on the expression of man's interior experiences. The movement was violently against Impressionism and academic realism. In the early 1920s, Gutmann was a young "master student" of Otto Mueller, a member of Die Brücke (The Bridge), one of several groups of artists who banded together around political and communal ideals. Indeed, it was an era of manifestos struggling against the increasingly chaotic political situation spreading through Europe before and after the first World War. Artists organized to change the educational structure and secure positions in the academies. This was also the time of Dada and the surrealists, whose work responded to the chaos by recognizing the absurdities of civilized society. Gutmann, at 16, knew of the latest radical developments in the art world.

Then, living in Berlin at 22, he was in the center of the art world, for Berlin was not only the capital of Germany, but one of the great cities of Europe. He recalls that he was there at just the right time, at the end of the 1920s and the beginning of the 1930s, when Berlin was a gathering point for many creative, exciting people from all over the world—especially in the arts, as well as in film, theater, and literature. It was a city of the most fascinating creative people, beautiful women, sophisticated night clubs, and great restaurants—with a certain prophetic air of decay hovering over it all.

There John Gutmann taught art and lived the traditionally romantic life of the emerging artist, showing work and beginning to make his place among his peers. He was on his own from the beginning, having broken away from his family, who had wanted him to study a more practical profession.

Everything might have gone along normally for the young artist if the situation in Germany had been different. But, Gutmann explains: "Hitler came into power. Because of the Nazi laws of racial purity, I could no longer teach or exhibit. The best and truly German

painters like Max Beckmann, Karl Hofer, George Grosz, Ernst Kirchner, Paul Klee, and Otto Dix could no longer show their work. Jewish or not, they were called decadent artists. Their art was labeled degenerate and Bolshevik.

"I knew immediately that I would not stay. I was very young and independent, rather excited to have a reason to go far away. Maybe to Spain. A friend had gone to Majorca and told me to come; he said it was paradise. I was to leave in 10 days, when an Austrian journalist friend came back from America, where he had successfully smuggled out his endangered publisher. He told me I was crazy to stay in Europe. There is only one country in the world to go to: the United States; there's only one state: California; there's only one city: San Francisco. That was 1933.

"Before I left Germany I had to do some practical planning because I knew that in the United States there was a Depression. I had read about it and I knew that making a living would be hard. You could hardly take any money out of Germany at the time. So I bought the best, newest, and most expensive camera—a Rolleiflex. I had never had a camera before. I bought a comprehensive manual and read and reread it. I learned all about my little machine and took a few test rolls. I went



"It is perfectly natural that an age of the machine would create one to make images. Any great age creates its images out of the potentials of its own time."

to the biggest photo syndicate in Berlin, called Photo-Presse, and told them that I was a photographer and was going around the world. 'Are you interested in my pictures?' I asked. 'Certainly,' they replied. Of course I didn't tell them I was emigrating to the United States!" We signed a contract. The gentleman never asked to see pictures and I had none to show him. I never looked at the contract, just gave my girl friend's home as a mailing address. That was it. My pictures sold immediately. Of course I was naive. In my excitement, I had signed away the world rights to my pictures. The agency had absolute control over my output of prints."

Thus, for John Gutmann, photography was a passport to a new life. Leaving Nazi Germany on a Norwegian freighter, he landed in San Francisco on the last day of 1933, 28 years old, a new Rolleiflex in hand. With that camera he was buying his freedom. The camera represented practically all the money he could take out of Germany, and it could be, he thought, a way to make a living as a photojournalist for the European press.

Gutmann worked through that agency for the next two years. And in 1935 he had a one-man show of paintings in San Francisco, which caused him to be hired to teach in a summer program at San Francisco State College (now San Francisco State University).

In 1936 he went across the United States by bus to New York because he wanted to find a new outlet for his photographs, having realized by then that Photo-Presse in Berlin was reselling his work internationally, thus, in his eyes, breaking his contract. Besides, he reasoned, what better and cheaper way to see the country than by bus? During that journey he took most of the photographs that appear in this portfolio. He spent six weeks going to New York and eight weeks roaming back to the West Coast, exploring many parts of the country. While in New York, he affiliated with Pix, an agency that took a central part in the founding of the magazine empires of the '30s. He stayed with that agency through the next 20 years.

In 1938, his career as a teacher got a boost when he became a teacher of painting, drawing, and the history of art

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THE COLOR PRINTER'S BIBLE (Part II)

Beyond the rainbow for more facts about color printing

By BOB NADLER

HARDWARE FOR THE WET SIDE Temperature controllers

One of the hard-to-kill myths about color printing concerns the impossibility of undertaking it successfully unless you are able to maintain the temperature of your chemistry and your processor to within $\pm 1/4$ F. That myth is, of course, absolute horsepuckey. It is perfectly simple to make excellent color prints with absolutely no temperature control whatsoever, by working at whatever temperature your darkroom happens to be. I won't, however, go quite as far as to say that the same is true for processing color negative or positive film.

When you are making color prints, mistakes are correctable. But when you are processing color film, if you blow it, you've had it. You don't get a second chance. So if you intend to do your own color film processing, I would strongly recommend that you work with carefully regulated and controlled chemistry and processing temperatures.

Temperature controllers fall into two main categories: automatic or manually controlled temperature-regulating faucets, and water-bath-temperature controllers. The units in the former category are, most often, part of the plumbing of a well-equipped darkroom sink. One of the simplest of these devices is the Flo-Temp unit marketed by the Darkroom Plumber. It is nothing more than a thermometer well that is designed to fit at the end of a standard

laundry-tub faucet, by means of a female hose fitting. The Flo-Temp's well accommodates most standard dial-type thermometers. Its purpose is to allow you to monitor the temperature of water flowing from the faucet. The Flo-Temp does no controlling whatsoever. That's your job.

Next in order of expensiveness is a simple single-handle, shower-type mixing valve or, for that matter, any single-handle faucet. These pieces of plumbing must be combined with a Flo-Temp if you are to know how well the single handle of such a valve has done to get your initial water-temperature setting accurately established. While many people think that these single-handle devices somehow do something automatically to control the temperature of the water they allow to flow through them, the fact is that none of them actually do any such thing. They do nothing more than the separate tap handles of a common sink faucet do; that is, they regulate the size of the passages through which the hot and the cold water passes on its way to the sink. If the temperature of either the hot or the cold water varies, the output water temperature from such a unit will vary right along with it. The same thing is true for water pressure. If it varies on either line, the output water temperature from a shower valve or a single handle faucet will also vary. The dial thermometer you put in a Flo-Temp will happily reflect any of these changes,

but none of the equipment I have mentioned so far has even the slightest power *automatically* to regulate the temperature of a flow of water from a faucet. However, it is possible to add a pressure compensator across the lines feeding a shower valve or single-handle faucet, to reduce or eliminate pressure as a factor of output water-temperature variation. But pressure compensators cost about as much as shower valves or single-handle faucets do, and hot water input temperatures are notoriously unconstant.

At from two to three times the cost of such devices, a thermostatically controlled water-temperature flow regulator can be obtained. These thermostatically controlled regulators go directly into the plumbing of a darkroom sink. They will maintain the output water temperature you initially establish, on a large built-in thermometer dial, to within rather close limits, most often to $\pm 1/2$ F, quite automatically, all by themselves, *if* the temperature of the input water doesn't vary *too* drastically and if the pressure on the input water lines doesn't do likewise. Some of these regulators have built-in pressure compensator devices and most of the others can be ordered with them as optional external plumbing. Most such equipment is designed with the commercial user in mind, however, and provides minimum controllable flow capacities grossly in excess of anything an amateur would even dream of using (if that amateur is paying to heat his own hot water or is at all concerned with conserving fuel). I have used a thermostatically controlled temperature regulator called the Meynell Photomix, that, in addition to having built-in line-pressure compensator and good accuracy, also provides output water temperature control down to a flow rate of one-half gallon per minute. I've not been able to find one with a lower controllable flow rate, but I would certainly like to.

For just a bit less than the cost of a thermostatically controlled, water-flow-temperature regulator, a water-bath-temperature controller can be obtained. These devices have nothing at all to do with the plumbing and, for the most part, can be used to control the temperature of a container of several gallons of water to very close limits, typically well within $\pm 1/4$ F, anywhere a source of 110-volt a.c. power is available. The ones I favor consist of a housing containing a pump, a temperature sensor, and one or more heaters. Long hoses are attached to the

housing so that water may be pumped out of a separate container, and into the unit's housing, where it flows over the temperature sensor, over the heater coils, and then back through a hose to the remote container. One such unit I'm partial to is the Supertemp.

I prefer these units over others that are permanently and hoselessly mounted directly to the container holding the temperature-controlled water. I feel that such units lack flexibility. The remote-type water-bath-temperature controller can also be used (with a bit of ingenuity) to supply a constant-temperature stream of water to a Kodak Model 11 processor, should you be inclined to use one. I know of some color printers who have adapted large fish-tank pumps and heaters to serve this purpose.

One thing to avoid is a water-bath-temperature controller that does not provide a pump or paddle or some other device to provide good agitation of the controlled bath. Without good bath agitation, it is impossible to get even-water-temperature distribution throughout the bath. And if the heater's temperature sensor, in such a non-agitated bath, happens to lie in a particular spot that is either atypically hot or cold, it will have the heater doing all sorts of awful things. In case you may be wondering what you are to do with flowing, automatically temperature-controlled water or with the water contained in a constant-temperature bath, it is most

often used to store chemistry bottles in. Doing so brings the chemistry in the bottles to the exact temperature specified for processing. These baths are also used to control the temperatures of some processing tanks and drums.

Finally, I should point out that such a temperature-controlled bath can be maintained with very good accuracy with nothing more than your devoted attention, a thermometer, and a pitcher of very hot water. If you bring several gallons of water in a controlled bath to the temperature you need and then periodically monitor the temperature of the water with a thermometer left immersed in it, you will find that it is really quite simple to keep the bath temperature closely regulated by simply adding hot water and stirring from time to time.

Thermometers

A decent thermometer is a bedrock item on any color darkroom hardware "must" list. Many color darkrooms have several, but just one reliable unit is all that is absolutely necessary. I would recommend, for the one-thermometer darkroom, that a glass-rod-type unit be selected. This type can double as a stirring rod, and that feature is very desirable when you measure the temperature of a processing presoak bath. The thermometer you do choose should cover a range of at least 60 to 120 F (15 to 50 C) and be readable down to $\frac{1}{2}$ F ($\frac{1}{4}$ C). For a thermometer

to be dependably readable to $\frac{1}{2}$ F ($\frac{1}{4}$ C), it must be calibrated in 1 F ($\frac{1}{2}$ C) increments.

Kodak produces an inexpensive alcohol-filled, glass-rod type unit called, appropriately enough, Color Thermometer. That same firm produces a much more expensive, mercury-filled, steel-shrouded, glass-rod-type unit, which they call Process Thermometer. Either one is all a color printer really needs.

The biggest disadvantage of glass-rod-type thermometers is their easy breakability. The metal-armored types are more durable than the unprotected glass-rod. Another problem these units present is that they can be slow and annoying to read. They must be properly oriented for their calibrations to be visible at all, and sometimes, even when the calibrations are readable, their alcohol or mercury columns aren't.

Dial-type thermometers are often very useful luxuries in a color darkroom. They are easy to read and are designed to be placed over the lip of a deep, temperature-controlled-bath container. The drawback to dial thermometers is that they sometimes go out of calibration and, with many of them, it is impossible to recalibrate them yourself. Beseler has overcome this problem with one you can recalibrate yourself. Another drawback of the dial-type is that while they are easy to read at a glance from a distance when the precision of the reading is not a greater factor, they can be very difficult to read down to $\frac{1}{2}$ F ($\frac{1}{4}$ C) because of parallax problems. If you don't read a dial thermometer from directly in front of the dial, chances are that you will read it incorrectly. Some dial-type units are equipped with a mirror inset into their dials so that the user can check the mirror to insure that no image of the needle is visible from the reading position and, therefore, no parallax will be introduced into the reading. Such a mirror scale is almost a necessity for this type of thermometer.

Whichever type you may choose, make sure that the unit you select has a very low thermal inertia and, therefore, a very rapid response time. There is nothing as annoying as having to wait while you watch the reading on a thermometer slowly creep up or down. Part of this annoyance is, of course, brought about by the uncertainty you feel over trying to determine whether, at any given moment, the reading of a long-response-time type of instrument reflects the actual temperature of the solution you are trying to measure, or if



You don't have to be rich to acquire the basic equipment you need for color print processing. A gallon pitcher, a few small graduates, a Turkish towel, a dishpan, a Kodak Process thermometer, and an 8x10-inch daylight print processing drum are all you absolutely must have.

the reading is still changing.

Paper processors

There is, in my mind, only one reasonable way for an amateur or a small-volume professional color printer to process prints in sizes up to 16x20 inches, and that way involves a very simple type of device called a daylight drum processor.

However, there are several other ways to process prints, and I would be remiss if I didn't at least mention them here (and, in the case of several of them, in much greater detail later in the text). The most obvious but least practical of the available methods involves trays or baskets. I'll skip over baskets (never to return) because they are not really applicable pieces of gear for use with less than a few dozen prints at a time, and this article is not meant for anyone who is processing more than a half-dozen prints at any given moment. These often-costly devices require the use of large volumes of chemistry and, most often, rely on expensive gas-burst equipment for agitation.

Anyone who is wealthy enough to make color prints is also wealthy enough to do it in a reasonable fashion. However, there are always a few peculiar folks who feel that they can beat the system and save a few dollars by processing their color prints in trays—the same ones they do their black-and-white prints in. I will even admit to knowing not one but two excellent and well-known color printers who started doing things this way many years ago, got hooked on the habit, and never stopped. All I can say is that such tray junkies have my fullest sympathies.

While it is *possible* to process color prints in trays, it is hardly *practical* to do so. Color print processing is nothing like black-and-white work. You can't watch a color print come up in the tray—the safelight is too dim to let you see anything worthwhile and there's not that much worth seeing until after most of the processing is over. You can't pull the print during development to do a bit of hot-souping or local stopping—there is no hot-soup (concentrated developer) procedure applicable and once again, even if there was, the dim glow of a No. 13 safelight wouldn't give you enough illumination to let you know what you were hot-souping or local-stopping. Color print processing is much like black-and-white film processing in that it is best done by time-and-temperature

methods. Trays offer a huge surface area for cooling of their contents through contact with the surrounding air, so they must be placed in a water bath for temperature control. That can get messy. The large surface area of color chemistry left exposed to the darkroom atmosphere has another disadvantage, but this one won't affect the print; instead, it will affect the printer. Color processing chemicals are hardly the most benign things you can inhale the vapors of. As a matter of fact, using *any* method of print processing, a reasonable and prudent printer will make damn certain that the room or area in which the processing is taking place is more than adequately ventilated (by a complete change of air every several minutes). If all of these disadvantages of tray processing have left you unconvinced, allow me to try further to dissuade you.

If the thought of breathing large quantities of vapors of less than benign chemistry doesn't faze you, perhaps contact dermatitis will. Processing prints in trays, particularly if you want to do more than one print at a time, involves using your fingers to grab and move the prints for interleaf agitation. Color chemistry is not recommended as hand lotion. You can, of course, wear rubber gloves while you do your processing, but if you have ever worn rubber gloves for any length of time, you will vividly remember just how pleasant that is. If you don't have extensive rubber-glove

experience to your credit, I suggest that you keep it that way.

If you don't care about your health, how about some concern for your pocketbook? Processing in trays involves the maximum possible contamination and oxidation of chemistry, per print processed. While it may seem like a cheap way of getting started, I suspect that you will soon find that it is costing you more per print to tray-process than it will if you process in a drum.

And, finally, I do want to warn that tray processing is the least repeatable and therefore the least desirable way to process prints. I have found *the single most important control a color printer has is his own consistency*. Color printing materials are very tolerant of a lot of exposure and processing errors and because of this you can get good results *if you do everything exactly the same way every time*. If you do things consistently, it will be possible to pin down problems and thereby correct certain things you are doing to achieve a desired effect predictably. But if you do everything differently every time you do it, you might as well give up on the idea of ever becoming a good color printer. You won't have a chance. Since trays add considerably to the unpredictability of processing, for even the most careful worker, they really ought to be avoided at all cost.

As a matter of fact, I feel so strongly that trays are a tool of the devil, where



If you can afford to indulge yourself, there's no limit on equipment for a color darkroom's wet side. This small sample includes an 11x14- and a 16x20-inch daylight print processing drum, a remote water-bath-temperature controller, a motor base, and two types of thermometers.



This Flo-Temp is mounted directly to the end of a laundry faucet, with a female-hose connector. The dial thermometer, mounted in the unit's well, quickly shows the water temperature flowing through both valve-controlled legs of the Y-valve fitting.

There is only one way to process color film, and that is right on the money. It isn't like black-and-white materials, with which you can exercise a great deal of control over everything from grain size to contrast.

color printing is concerned, that I am going to drop them right here, never to mention them again. If you want to know more about tray processing color prints, you will have to look for the information elsewhere.

Daylight color print processing drums are essentially nothing more than hollow tubes with a removable, light-baffled, pouring spout at one, or at both ends. An exposed piece of printing paper is shaped into a tube and inserted into a drum immediately after the exposure has been made. The cap then is put back on the drum and the white lights may be turned on again in the darkroom. So the first advantage of using such a device is that it allows you to work in broad daylight.

The drums are, in my opinion, most properly used with one-shot processing. You use a bare minimum of chemistry to process each print, or group of prints, and then immediately discard the chemistry once it has been used. While this may seem like a wasteful procedure to some printers, it really isn't too uneconomical when you consider that many drums require only 1½ to 2 ounces (40-60 ml) of each processing solution and you gain a huge advantage in the consistency with which you are able to process. However, for diehard replenishment freaks, daylight drums are quite easy to use with replenishment techniques (but I certainly don't recommend doing so).

My favorite drum processing method involves only the most rudimentary temperature control. I use all the processing chemistry at whatever temperature my darkroom happens to be, but I warm the drum and the print inside it with presoak water, poured into

the drum, before I begin processing. Many drum manufacturers provide a simple, printed, graph-type device, called a nomograph, which will, for a known room temperature and a chemistry manufacturer's known recommended processing temperature, automatically provide the proper presoak water temperature to use.

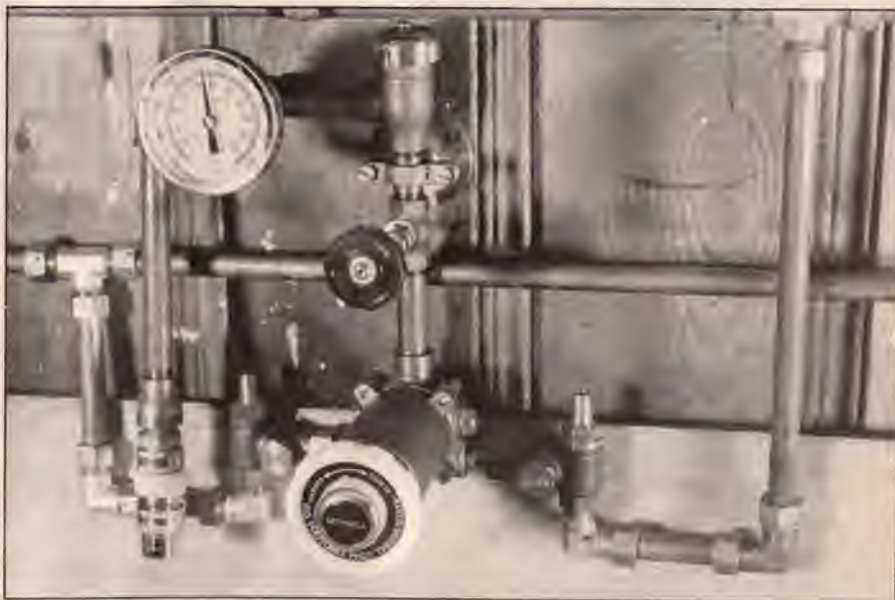
Once the drum and paper have been brought to operating temperature, the presoak water is discarded and the drum is drained through its pouring spout. Then a small quantity of developer is added through that same spout and the developer puddle, formed inside the drum, is agitated over the print surface by rolling the drum about its longitudinal axis. This rolling agitation may be accomplished either manually, by rolling the drum on a level, padded surface (a Turkish towel or a foam-rubber pad will provide sufficient friction to insure that the drum will roll rather than slip), or the drum may be rolled by an electromechanical agitator. The electromechanical device is the better choice, because it is more consistent than manual agitation, but either method will work. When development is complete, the drum is tilted to pour off the developer, then the drum is drained for a few seconds; the next processing solution is poured in through the pouring spout and the drum is agitated with this new solution for some specified length of time. Then this solution is poured off and another one added to the drum. And

so on and so forth, until the completely processed print is removed from the drum to be dried.

Since all of this activity goes on in broad daylight, or white room light, there is never any fumbling in the near darkness of a No. 13 safelight's glow. If the chemistry is used in the one-shot manner I recommend, there is never any hassle about collecting it after use and about how much replenishment is needed, and about how much of a time or temperature increase is necessary for the next print processed in the recycled soup. When you work one-shot, you always do everything the exact same way. That helps you to become and to remain a consistent worker.

Typical processing times using a daylight drum run between 8 and 10 minutes. If volume production becomes necessary, several prints can be processed simultaneously in a daylight processing drum. Typically, a 16x20 drum will process four 8x10-inch prints or two 11x14-inch prints or a single 16x20-inch print at the same time. Using a 16x20 drum, you can get an effective 8x10-inch print processing time of one print every 2 minutes. That's not too much slower than a black-and-white stabilization printer will process black-and-white prints.

Another big advantage of drum processors is that when you get to be good at using them, you will find that you really don't even have to get your hands wet while you are processing prints. And



This thermostatically controlled, water-temperature flow regulator is installed in the darkroom plumbing. The large white knob regulates the temperature of the output water, which is indicated on the thermometer dial at the top left of the unit. The small dark knob above the large white one regulates the output water's flow rate. The Meynell Photomix Model 155 is capable of controlling flow rate as small as a half gallon per minute; most other units need more for proper operation. This unit also features a built-in pressure compensator.

since the tiny puddles of chemistry are contained within the drum, and they can be poured directly into the sink drain, the drum user gets to breathe a lot less chemically contaminated air than users of other processing devices.

There are two basic types of drums: the vertical and the horizontal. Vertical drums usually, but not always, have pouring spouts at both ends. These are so arranged that when the drum is placed vertically, with its pour-out end down, any liquid within the drum will pour out, but while this is going on, you may pour the next solution into the drum without worrying about its mixing with what's already in the drum or simply pouring out with the rest of the drum's contents. The pour-in caps have a reservoir device that stores the fresh charge of chemistry until the drum is deliberately placed in a horizontal position. When such drums are positioned horizontally, nothing further will pour out of the drum, and whatever chemistry has been added during the pour-in/pour-out operation will spill out

of the reservoir and into the drum to process the print.

Almost all such vertical drums have smooth inside drum walls. One disadvantage with this type is that it will not hold very much presoak water. Another is that its smooth walls make it impossible to carry out all of the processing steps required for a color print, inside of the drum. With smooth-walled, vertical-type drums, the wash and stabilization steps must most often be carried out in a separate tray.

My own preference is for the horizontal, ribbed-wall type of drum. These units have only a single pouring

spout, at one end of the drum, which is used first to pour the contents of the drum out and then to receive the next processing solution. These drums can be filled with presoak water, when desirable, and they allow all of the necessary processing steps to be carried out within the drum, as the ribs, which run the length of the drum, allow processing solutions, and more importantly, the wash water, to get behind the prints in the drum.

There are several variations on these basic daylight drum types. Kodak London (but not Rochester) markets a vertical type that can be completely



Here's a new Simmard-manufactured drum (now marketed by Chromega) seen head on. The cam-shaped caps are easily viewed.



This unit was manufactured by Simmard, in Canada, and sold in the U.S. by Unicolor. It is the oldest of the daylight processing drums. The cam-shaped end caps are a patented feature of Simmard-made drums, which when hand-agitated move a wave of chemistry from end to end.

ROOM TEMPERATURE
(Chemical Temp.)

70	110
75	120
80	130
85	140
90	150
95	160
100	170
105	180
110	190
115	200
120	210
125	220
130	230
135	240
140	250
145	260
150	270
155	280
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165	300
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195	360
200	370
205	380
210	390
215	400
220	410
225	420
230	430
235	440
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245	460
250	470
255	480
260	490
265	500
270	510
275	520
280	530
285	540
290	550
295	560
300	570
305	580
310	590
315	600
320	610
325	620
330	630
335	640
340	650
345	660
350	670
355	680
360	690
365	700
370	710
375	720
380	730
385	740
390	750
395	760
400	770
405	780
410	790
415	800
420	810
425	820
430	830
435	840
440	850
445	860
450	870
455	880
460	890
465	900
470	910
475	920
480	930
485	940
490	950
495	960
500	970
505	980
510	990
515	1000

DESIRED PROCESSING TEMP

110	120
120	130
130	140
140	150
150	160
160	170
170	180
180	190
190	200
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210	220
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950	960
960	970
970	980
980	990
990	1000

WATER TEMP

110	120
120	130
130	140
140	150
150	160
160	170
170	180
180	190
190	200
200	210
210	220
220	230
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990	1000

3 MINUTE PROCESSING IN A DRUM

Light prints... (text continues)

RE-USABLE CHEMISTRY (DRUM PROCESSING)

Another... (text continues)

TRAY PROCESSING AT AMBIENT TEMPERATURES

Only two trays are required. Pour one quart of ambient temperature... (text continues)

PATERSON
Pre-soak Temperature Calculator

1. Room Temp... (text continues)

2. Print Temp... (text continues)

3. Incomplete agitation (STEP #2)

4. Insufficient drain (STEP #3) - Drain thoroughly or add a cold wash line after STEP #1

Cyan Cast Over Entire Print (Cyan Borders):

1. Step #1 is contaminated - Wash all slides in cold water and mix fresh STEP #1

2. Print exposed to B & W light

The straight edge of a plastic triangle intersects the three temperature scales of the Beseler nomograph to indicate that for a room temperature of 75 F and a processing temperature of 88 F, a presoak water temperature of 100 F will be required. The Paterson slide-rule type calculator on the right is set for the same room and processing temperatures, but advises that a presoak water temperature of 111 F is needed. The Beseler nomograph was supplied with a kit of their print processing chemicals, and the Paterson calculator with their processing drum. Both are good; just pick one and use it *consistently* and you will be right.

The single most important control a color printer has is his own consistency ... you can get good results if you do everything exactly the same way every time.

sealed and floated in a temperature-controlled water bath. Beseler makes a horizontal-type drum with smooth walls. Paterson makes a smooth-walled, horizontal-type drum that has a helical slot in one end that engages a pin in a special stand (which is sold as an integral part of the drum system) and allows the drum to be agitated, in two planes at once, by means of a built-in hand crank. Simmard builds a cam shape into the end caps of their drums (which are marketed in the U.S. under the Chromega label), that causes their drums to be agitated in two planes simultaneously when they are manually rolled on a flat surface.

Essentially, all of the available color print processing drums work fairly well. My own preference is for the horizontal-type, ribbed drums, but I have used just about all of the units marketed in the U.S. and some of those available only abroad and I have been able to obtain good prints from all of them.

Motor bases

The electromechanical devices I think of as the most consistent means of agitating a daylight color print processing drum are most often referred to as motor bases by their manufacturers. I'm presently aware of three different makes of these devices available on the U.S. market. The Beseler motor base simply turns a drum on its drive wheels, quite rapidly, about its longitudinal axis. The Simmard motor base (marketed in the U.S. as the Chromega) performs the same function, but additionally rocks the drum to cause a transverse wave of chemistry to form in the puddle inside the drum and to move from one end of the drum to the

other. This feature, patented by Simmard, is said to provide superior chemical agitation. The Unicolor motor base is unique in that it turns any drum on its drive wheels at a much slower rate than the other two units, but after about $3\frac{1}{2}$ seconds of rolling a drum one way, the unit emits a loud click and immediately reverses itself and begins to roll the drum in the opposite direction.

Both the Beseler and the Chromega units require that restraining devices be placed on the drum being agitated so as to prevent it from being walked off its drive wheels by the unidirectional rotation, vibration, or any incline the motor base may be operating on. The Unicolor motor base does not suffer from this problem as its constantly reversed, low rotational rate never seems to cause any shift in even the long, poorly balanced, 16x20 drums. The Unicolor base is also useful with the Unicolor film processing tank. It is a favorite of mine.

For semi-automatic film and paper processing, any of these motor base drum rollers can be plugged into a switching darkroom timer, such as the GraLab. The period during which agitation with a particular chemical is required can then be set on the clock, the drum placed on the agitator, and the clock started. The motor base will continuously agitate the drum for the proper period and then automatically stop, sounding an audible signal (on the GraLab) as it does so. This kind of operation frees the printer to do something other than watch his print processing drum roll.

While motor bases are not an absolute necessity for color print processing, they certainly can make a color printer's life a lot easier, and more

enjoyable. If you can afford one, buy one.

Print-drying equipment

Drying black-and-white prints never presents too much of a problem. Only the most super-critical of black-and-white printers will bother to dry a print completely, to see the changes drying will bring (and those changes are often quite pronounced), before deciding the print is perfect.

The color printer does not have the luxury of choice. If you print on type A paper, you will have no idea of what a newly processed print will look like until after that print has been *completely* dried. While type B color printing paper can be evaluated for color balance when wet, it really isn't too advisable to do so. There will be some changes in type B paper's color balance between its wet and dry states, often as much as an .05 viewing filter's worth.



A motor base is by far the best way to agitate a daylight drum processor because it is more consistent than a plain, old-fashioned human being. Consistency of agitation is the single most important factor in color print processing. It should be obvious then why I recommend the motor base.



Always roll a daylight processing drum on a towel or a sponge-rubber pad. These high-friction surfaces prevent the drum from slipping and insure proper agitation when the drum is rolled by hand.

So the low-volume color printer is faced with a peculiar kind of problem: we have to dry each new print as soon as it is processed, in order to determine whether we have printed it properly or if filter pack and/or exposure modifications must be made to get the print we want. It is this requirement, more than any other, that has caused plastic-coated color printing papers to all but entirely drive baryta-base papers off the market. It takes only about a minute to dry a plastic-coated print while it often takes several times as long to get a paper print dry. There is nothing as dull or as unproductive as sitting and watching a print dry. The less time you can spend on this idiot score, the better. So, in spite of the fact that I really like the surface of glossy, baryta-base paper air dried, much more than any surface I have been able to find on the many plastic-coated papers I've tried to date, I use plastic papers almost exclusively because of their fast drying properties.

In addition to drying fast, plastic papers dry flat (or nearly flat). It is possible to cook a baryta-base paper on a roaring hot dryer, to get it dry almost as fast as a plastic-coated print, but the baryta-base print so dried will be a pitiful-looking, warped, curled, and buckled thing when you take it off the dryer.

I suspect that all of the comparison offered above is really rather academic. I won't be at all surprised to see all of the world's color printing materials manufacturers simply stop making baryta-base printing paper in the very near future, because the new environmental-protection laws will force them to do so.

The equipment I have found the most practical for this instant-print-drying requirement consists of a large (20x24 inches) sheet of $\frac{3}{16}$ -inch-thick glass, a rubber squeegee, a chamois, a hair dryer, and, on occasion, a flat bed dryer.

The procedure I use is to place the wet print emulsion side down on the glass and thoroughly squeegee the back of the print, pressing hard so as to squeeze as much water from between the emulsion and the glass as possible. This action will cause either the Kodak or the LPL squeegee to leave black marks on the print back if the squeegee is not rinsed and wiped between strokes. I then flip the print over and wipe the emulsion side down with a slightly damp Kodak photo chamois. I leave the print where it is and turn the hot-air blast from



Horizontal-type processing drums use the same spout for pouring chemistry in and out of the drum. The user can prevent undue chemical contamination by draining the chemistry properly and by flicking the drops off the end of the spout. To process with a drum, you don't even need a sink; a dishpan purchased in the five-and-ten will do.



These Chromega (Simmard) drums are typical of the horizontal type. They feature ribbed walls, which permit the processing solutions to get to the back of the print. This allows washes to be carried out in the drum. The round rods are removable for easy cleaning and may be installed in several positions to accommodate a number of different print sizes. The funny-looking, wing-like things are print separators that allow simultaneous processing of prints.

There is only one reasonable way for an amateur or small-volume professional color printer to process prints in sizes up to 16x20, and that way involves a very simple device called a daylight drum processor.

1,000-watt hair blow-dryer on its emulsion side and keep blasting the print with hot air until the emulsion is dry to the touch. Drying the back of the print is not required when all you need is a dry surface to evaluate color balance and density.

If, however, I want to dry a finished print quickly, particularly one of large size, I transfer the print, after wiping the emulsion with the chamois, to the top of the apron of a flat-bed dryer, placing it emulsion side up on top of the dryer apron. Then I use the hair blower to dry the emulsion side while the flat-bed dryer is cooking the moisture off the back of the print.

If you have all the time in the world, you can simply hang a plastic-coated print up to dry, much like the laundry, and it will take care of itself in due time. Do not, under any circumstances, try to ferrotype glossy, plastic-coated paper. You will ruin the print. This paper dries to a high gloss surface all by itself, with no help from a ferrotype plate.

In a pinch, you can also dry any kind of print in a cool (150 to 200 F [70 to 90 C]) oven, but because of the distinct possibility of print contamination, this method ought to be a last resort.

SOFTWARE FOR THE COLOR DARKROOM

I use the term software to refer to the materials consumed in the processes of color photography—film, paper, chemistry, dry-mounting tissue, retouching dyes, etc. By now, I'm sure that my use of the term hardware is understood to mean all of those items useful to the color printer that are not consumed in the process of making color images—enlargers, processors,

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focusing aids, etc. Considerably more detailed information will be provided for many of the products mentioned here in later articles.

Film

There are a large number of film types available and useful to the color printer. The major categories of such products include: color negative film, color positive film (slide film), special internegative and duping films, and specialty films such as infrared and special photomicrography types.

The color negative films currently available all fall into about the same speed category, between ASA 80 to 100. Some of the old standard emulsions are presently in the process of being phased out of production; Kodacolor-X and Ektacolor S and L will probably not be with us for too much longer. These color negative films have been superseded by new, finer grained emulsions such as those found in Vericolor II and Kodacolor II. These newer films provide better color quality and saturation, better resolution, and very different printing characteristics. The newer color negative films have considerably lighter printing masks, and are, therefore, much easier to evaluate by eye, prior to printing, than the older materials were—but they do call for very heavy magenta and yellow filtration when being printed. Printing filter packs containing .60 to .80 magenta and 1.00 yellow or more are not uncommon with Vericolor II film. One negative feature of the new Kodak films, however, is their decreased stability. Vericolor II negatives should be stored in sealed, foil-lined envelopes at low temperature if a life expectancy in excess of two years is desirable. I would be hard pressed to think of shooting anything I wouldn't want to last for two years, and I'll be damned if I'm going to move my files into my freezer, so I guess I'll cut back still further on the amount of color negative film I will shoot.

Things are in a similar state of flux with color transparency films. Perhaps the most heartbreaking event in the history of photography took place when Kodak announced that they would discontinue their Kodachrome II and Kodachrome-X films and replace them with newer and "better" ones called Kodachrome 25 and Kodachrome 64. I stocked my freezer full of Kodachrome II and I'm not sorry I did. The new Kodachromes got off to an awful start when Kodak shipped large quantities of them "green" (unseasoned) and thereby

got involved in the only major photographic industry product recall I can remember. Things haven't as yet gotten too very much better. When I shoot up all of my freezer full of Rochester-built K-II, I will switch to English Kodak Kodachrome II (they still make it there). The only nasty problem with my scheme for avoiding "progress" in film emulsions is that my friendly neighborhood Kodak processing laboratory is running its Kodachrome II processing lines less and less frequently as more and more of their volume is handled in the newer emulsions.

Film-processing formulas

Any color film except the Kodachrome (old and new) can be processed in even a rudimentary darkroom. But I really can't, in good conscience, recommend the practice to you, for reasons I've already outlined. However, if you do decide to do it yourself, Kodak, Unicolor, and Beseler all offer negative-film processing chemistry kits for small volume users.

Be sure that you purchase the type of chemistry appropriate to your particular type of color film and that you don't mix incompatible film types in processing baths. There are two major processes for color negative film these days: C-22, for the Kodacolor-X, Ektacolor S and L, Eastman 5254 and GAF Color Print Film; and C-41, for Kodacolor II, Vericolor II, Eastman 5247, Fujicolor F-II, etc.

Kodak, GAF, and Unicolor also make small-size kits to process any of the color reversal (slide) films, except, as explained earlier, the Kodachromes. Among these several kits, I find the Unicolor Unichrome material to be the most flexible of the processing chemistries. Rather extensive instructions are provided with the Unichrome materials that cover processing most of the commonly used reversal films, as well as such unusual films as Ferrania, 3M, bulk-loaded Ektachromes, special-purpose duping films, Fujichrome, etc.

Negative-to-positive printing papers

I'm afraid that I have said about everything that ought to appear in this section earlier in the text, so please bear with me in my redundancy or simply skip this and the next section if you have a low pain threshold.

There are basically two different types of negative-to-positive printing paper, called, simply enough, type A and type B. The essential difference between them lies in the way their couplers are

incorporated in their emulsion layers. Type A encapsulates the couplers in oil globules; type B uses molecular structure to hold the couplers in place in the gelatin matrix. All of which is of no importance to the printer, whatsoever, except as it affects the characteristics of the paper in printing. The principal difference between the two types, for all practical purposes, is that each one requires a different type of developer and that type A paper can't be evaluated for color balance until it is dry. Type B can be evaluated for color balance when it is wet, but frankly, I would advise drying it before evaluating it if you are trying to do first-rate work.

Another area of difference between the two types of paper is that, to the best of my knowledge, there are no type B plastic-coated color printing papers available in the U.S., though Agfa has one on the European market.

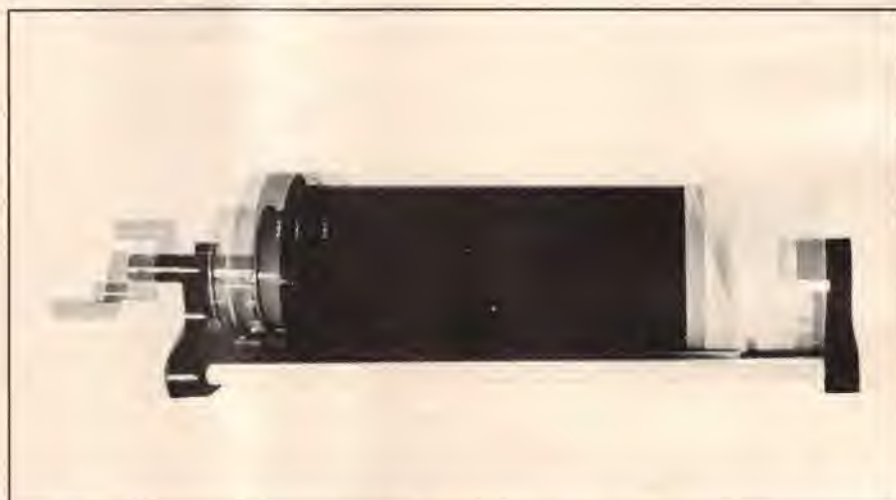
Since all of the type B paper you can buy is baryta-base, it will be harder for you to dry it quickly and to keep it flat. I like the way type B papers look, but I don't like the problems I encounter drying them, so I must admit that I allow practical processing considerations to outweigh my aesthetic sensibilities and I use type A paper almost exclusively.

There are several brands of negative-to-positive printing paper—Chromega (GAF), Unicolor (Mitsubishi), Kodak, Agfa, Luminos, etc.—all of which can be obtained in several sheet sizes, usually ranging from 5x7 to 16x20 inches. If you are financially able to do so, it will always be best to purchase the largest quantity of paper, from the same emulsion batch, that you are able to store under refrigeration. I suggest this because each emulsion batch of color printing paper (just as each emulsion batch of color film) will have different printing characteristics. So each time you begin to print with paper from a new emulsion batch, you will first have to make several calibration prints to find out how the new paper differs from your last batch.

Positive-to-positive printing paper

There are only two different types of positive-to-positive paper presently widely available. They are as different from one another as day is from night. Kodak's material is called Ektachrome RC paper, Type 1993. Ilford's material is called Cibachrome, Type A or CCP-D 182.

The Kodak material is very similar in



This Paterson processing drum is agitated by means of a small crank handle that both causes the drum to rotate about its longitudinal axis and moves it rapidly back and forth; the chemistry inside makes the same movement.



The Chromega motor base uses eccentrically mounted idler wheels to rotate and rock the tank. This causes end-for-end movement in puddle of chemistry inside drum.

Every manufacturer of color printing paper, with a few minor exceptions, produces and markets chemistry specifically designed to process his own paper. All of these materials, used with care, give you high-quality prints.

construction and in processing characteristics to the Ektachrome films. The Cibachrome material is unique, at present, in that it uses dye-bleach processing. Cibachrome leaves the factory with all the dye it will ever have. You *remove* dye when you process it. The Kodak material is of the conventional chromogenic type, containing no dyes whatever (except for a yellow filter layer and whatever additional filter layers are added to correct the printing balance—all of which wash out during processing). The dyes are *formed* when you process Kodak's Type 1993 paper.

Perhaps the most important difference between the two materials is in the nature of the dyes used, and the reasonable life expectancy of the prints. The azo dyes used in Cibachrome material are said to have considerably more resistance to fading than the azomethine and indoaniline-class dyes used in the chromogenic materials.

The exposure latitude and exposure procedures of both materials are quite similar. It is far easier to print positive-to-positive than to print negative-to-positive.

The Cibachrome material is not a paper, in the strict sense of the word, because its base is entirely made of triacetate plastic. The Kodak Type 1993 is on a resin-coated paper base. Both materials are quite simple to process. Both air-dry to a very high gloss.

I find that Cibachrome is capable of providing extremely high color saturation, but I am not overly fond of its very high contrast and, in my experience, its thin and off-color blacks. I've found that the Kodak material can't match the color saturation of

Cibachrome, but it is far less contrasty and is, therefore, better able to reproduce more closely the subtleties of color gradation found in high-quality transparencies. I also find the Type 1993 to provide a better, cleaner black.

The biggest difference between the two types of materials, however, is their cost. A finished Cibachrome print in any size costs about twice as much as the same size print on type 1993. Being a born cheapskate, as well as a philistine, I use nothing but the Kodak material. I'll probably be sorry, though, in years to come, when my reversal prints fade away to mere pastels.

Paper-processing chemistry

Negative-to-positive. Every manufacturer of color printing paper, with a few minor exceptions, produces and markets chemistry specifically designed to process their own paper. In addition, several other firms manufacture and market chemistry to process the more popular brands of paper. For example, Beseler and Unicolor both produce kits of chemistry designed to process Kodak's very highly regarded 37 RC paper. All of these materials will, if used with a modicum of care, give you very high-quality prints. Aside from, or because of, the several chemical differences (I suppose there are) among the processing chemistries, each maker or marketer of such materials has his own recommendations for the procedure to be used with his products. I consider some of these instructions to be a lot less than useful, while others offer the color printer procedures that are easy to use and yield consistently good results. Among those instructions I consider to be less useful than others are the ones that call for print processing times shorter than 5 minutes, or demand large volumes of processing chemistry, or call for very high processing temperatures, or insist on iron-clad, terrifically narrow processing-chemistry-temperature limits. The instructions I feel are most useful are those that give a printer sufficient time to carry out the whole processing procedure comfortably and sufficient latitude so that small timing and temperature errors become uncritical. Some marketers of chemistry cover all bases, offering several sets of instructions with their materials, some of which fit both of my categories. I'll go into this whole area in greater detail later in this series.

Positive-to-positive. Here, too, the

makers of the printing materials also manufacture and market their own processing chemistry. Independents such as Beseler and Unicolor also make processing chemistry for the Kodak material, but, to date, only Ilford makes and markets Cibachrome processing chemistries.

Only the Kodak chemistry allows the user of Type 1993 paper to process prints without a white-light re-exposure step. Processing times for the several available kits range from about 8 to 15 minutes. There are about a half-dozen chemical processing steps and about five separate washes involved in making a print on 1993, but in spite of the number of steps, the process goes quickly—but not so quickly that a printer is rushed—and is not at all complicated. In my own experience, I have found it to be virtually impossible to make a bad print on 1993 because of processing problems.

There are several Cibachrome processing chemistries available—P-10, P-12, and P-18—but the only one sold in small enough quantities to be of interest to the low-volume user is the P-12. This is a three-solution, four-step, 12-minute process, which can, at times, give off some peculiar odors, but is for all intents and purposes quite simple to use.

STANDARD NEGATIVES

The color negative system is an incredibly clever one. It is designed to allow high-quality color positive prints and transparencies, as well as black-and-white prints, to all be made at reasonable cost, from the same negative. In theory, the color negative system is terrific. In practice, particularly in amateur practice, it is a giant pain in the head. The principal problem with color negatives is that they are virtually impossible to interpret directly. This is so to a far greater extent than it is for black-and-white negatives. Even the latest types of color negative film, with their very pale masks, are still impossible to deal with on the basis of an accurately previsualized print. And, to make matters a bit more confusing, given some kind of average subject material—let's take a portrait, for example—it will be all but impossible for the inexperienced printer to examine a processed negative and determine whether the exposure used to make the shot was the proper one, or if the processing used to prepare the negative was done correctly. Even if we assume that you are an expert and experienced photographer and that you have

processed your own film in the most meticulous manner, the colors in the prints that you make from your properly exposed and processed negative may, but more likely may not, very closely match the colors of your original subject. While it is quite possible to use color negative film to produce images that very closely approximate the colors of the subject, the only accurate way to do this is to have your subject close at hand to compare it with the prints you are making. In the case of a portrait, you will need your model, close by the darkroom door, for reference while you print. If your model happens to get a suntan, case of yellow jaundice, or even a bad hangover, your reference material will have vanished, even if your subject camps on your darkroom doorstep throughout your printing session.

Now, if you had included a bit of additional material somewhere in the portrait that was essentially an unchanging and easily available reference, you could send your model off to cure the hangover and compare the reference material with the image appearing on your prints. And, if the reference material you select to put somewhere in the portrait frame is designed to provide you with information on both the initial camera exposure and the subsequent film processing, so much the better.

Needless to say, that is exactly what I am proposing that you do before you try to get started making color prints from color negatives. I want you to be sure to have a printable negative and an accurate idea of what the subject portrayed on that negative should look like on the finished print, before you waste a lot of time and money trying to print something unprintable. The item I am going to suggest you acquire, before we go any further, is called a standard negative. You can buy one or you can make one. I suggest you buy one first, then make more later.

The Kodak Dataguide's Shirley

Kodak publishes something that, for want of a better word, I will call a book, entitled the *Kodak Color Dataguide*. I hesitated to call it a book, because it is really much more than a collection of printed pages. It is also a collection of color printing hardware produced and packaged in book form for the sake of convenience. For instance, included between its covers are a complete set of viewing filters, an 18 percent gray card,

a set of density wedges, a set of color bars, a circular-slide-rule type of color printing computer (about which I will have a good deal more to say later), a ring-around, and, more directly pertinent to the business at hand, a 35-mm standard negative and a color print made from it. Copies of the *Color Dataguide* printed prior to 1975 contain standard negatives made on the now-discontinued Ektacolor Professional S film (perhaps more commonly known as CPS). Copies of the book printed in the latter part of 1975 contain standard negatives made on Vericolor II Professional S film.

These Kodak standard negatives are called Shirlies. They always contain a portrait of a pretty woman and a set of color bars (or the equivalent in color cushions or drapes on some of the CPS negatives). The newer Shirlies also contain a set of density wedges, but somehow Kodak eliminated the density wedges from many (but not all) of the CPS Shirlies.

If you will contain yourself for long enough to make your first prints from these Kodak produced negatives, you will be doing yourself a very large favor. You will be printing a negative that has been properly exposed and processed, and you will be able to compare your printing results with a standard print that Kodak has already cleverly made from that negative, to prove to you that it really can be done. Of course, by doing things this way you won't be able to blame your off-color prints on the lousy negatives you are working with. The blame will have to fall where it belongs, with the lousy printer. But that is really a small price to pay for such a valuable printing aid as this.

For those of you who may be averse to working with 35-mm negatives, or who, for one reason or another, do not wish to work with a Vericolor II negative, Kodak also produces standard negatives on Kodacolor-X, Kodacolor II, and 6008 (internegative stock), in various sizes ranging from 110 to 120. These are all listed in their product catalog and each will cost more to acquire individually than a copy of the entire *Color Dataguide* will.

Shooting your own standard negative

If you insist on doing things the hard way, you will ignore my advice and rush off and make your own standard negative rather than buy your first one from Kodak. You will be doing yourself a considerable disservice. That's your tough luck. I suggest that beginning

printers skip this section and return to it much later. First learn to print fairly well, using Kodak's standard negative to get started, and then when you are more familiar with the process, shoot your own set of standards.

Unless you are prepared to store your standard color negatives as Kodak recommends for color-negative preservation (wrapped in vapor-tight foil containers and stored, in darkness, in a freezer), it will be a very good idea to prepare your own fresh standard negatives at about two-year intervals (photographic-color-product dye stability being what it is, two years is about the serviceable life of a standard color negative).

Shooting standard negatives need present no particular problems. A set shot with different light sources will be very handy in preparing calibrated contact sheets, which I will discuss later. I would suggest that you use a living, breathing person, of any sexual persuasion, as part of your subject material, and that you include an 18 percent gray card, a set of density wedges, and a set of color bars as prominent in the frame as the model's face. Be sure to place your camera and lights so as to avoid any hot spots, reflections, shadows, or glare on the model or the reference material. Bracket your exposure around a very carefully obtained meter reading. Film and film processing are cheap when compared to paper and paper processing, so it will be a good idea to bracket in half-stop intervals perhaps as much $\pm$ two stops on either side of the metered exposure value. Keep an accurate shot record. Among the several light sources you may want to produce a standard negative for are: 3200 K tungsten, 3400 K tungsten, electronic flash, and daylight. You may want to make standard negatives with one or more of these light sources on any or all of the color negative films you normally shoot. When you have completed shooting your standard negatives, I strongly suggest that you send the exposed film to its manufacturer for processing, rather than processing it yourself. These are standard negatives you are making, after all. However, if you do your own film processing, make sure to treat these standard shots with great care, and, if possible, fresh chemistry. These are tools you are making, as you will see shortly.

While this may sound like a very crude way of doing things, perhaps the easiest (and acceptably accurate) way of

While the color negative system looks wonderful in theory, it turns out to be less than wonderful to deal with in practice. Just the opposite is true for printing directly from color transparencies.

determining which of the bracketed negatives is the most properly exposed is to compare visually and carefully the portions of these negatives containing an image of the full set of density wedges. Use a loupe to compare the frames closely. Select a frame that seems to offer the fullest tonal range and the best separation between each of the wedges as your standard for each of the conditions and film stocks you shot.

STANDARD TRANSPARENCIES

While the color negative system looks wonderful in theory, it turns out to be much less than wonderful to deal with in practice. Just the opposite is true for printing directly from color transparencies. A pretty good case can be made against the theoretical problems inherent in this process, but in practice it turns out that printing directly from slides is quite simple and easy to do. To begin with, you know exactly what the print you are trying to make should look like, because you can examine it, by a common light source, side by side with the positive image on the transparency being printed. And, unlike the color negative printing process, which often needs gross changes of printing filter pack when going from one negative to the next, the process of directly printing color transparencies seldom involves any significant pack changes from one slide to the next unless some specific special effect is desired. And, just to sweeten the slide-printing pot still further, the latitude involved in the process is at least twice that found in the color negative printing process.

It is really not necessary to buy or

make a standard color transparency for all of the reasons above. However, standard transparencies can be very useful at times. A standard transparency is useful to determine the printing characteristics of a new supply of reversal printing materials, or the effects of varying certain procedures, products, or processing methods.

In general, the subject material and process for making standard transparencies is the same as what was suggested for making standard color negatives, above. You can make standard slides with different light sources and on different films. With slides, the name of the game is to use the proper light source or to use CC filtration on the camera to get the proper color balance in the transparency, rather than by filtering for it during printing.

I would suggest using the same bracketing procedure recommended for making a standard color negative for each of the different transparency films you normally shoot. But I further suggest that you shoot only under the lighting conditions for which the slide films were designed. Examples are: Ektachrome B and High Speed Ektachrome (Tungsten) with 3200 K tungsten illumination; Kodachrome II Professional A with 3400 K tungsten illumination; Kodachrome 25 and 64, Ektachrome, Fujichrome, the GAF chromes, etc., with sunny-sky midday, outdoors, diffused daylight, or with electronic flash illumination indoors or outdoors.

If the process of making a standard transparency does not appeal to you, you can buy them ready-made, from Kodak. They list several types in their Photographic Products catalog.

ESSENTIAL SOFTWARE

The materials I'm going to recommend here are the ones I feel can give an amateur printer the best results, the greatest latitude of operation and of printing characteristics, and the lowest possible price per print compatible with these characteristics.

If you intend to make your first print from a color negative, I suggest using Uicolor's resin-based (type-A) paper and their R-2 chemistry. If you can afford it, I suggest that you purchase a 100-sheet box of paper and several 1-quart kits of chemistry (as opposed to 1-gallon kits).

If you intend to make your first prints from a color transparency, purchase a 100-sheet box of Kodak's Ektachrome type 1993 paper and several 1-quart kits of their R-500 chemistry (as opposed to

the 1-gallon components).

All the instructions in this chapter will be based on the use of these materials. If you wish to use other materials for your early efforts, you will find information on many alternative products elsewhere in this series.

Before you enter the darkroom to make your first print, you should prepare all of the working-strength solutions of the processing chemicals you intend to use. In the kits I've recommended, all of the chemicals are supplied in concentrated liquid form. These must be diluted to the proper working strength. I have recommended that you begin your printing with quart-size kits because the concentrates contained in these small kits can be easily and conveniently mixed, all at one time, to make up a very useful quantity of processing chemicals. One quart, generally speaking, is sufficient to process 16 sheets of 8x10 paper, using the one-shot (the chemicals are used once and then discarded) method. You will most likely consume all of this quantity of working-strength chemicals considerably before the manufacturer's stated shelf life for working-strength materials (usually several weeks to several months, depending on storage conditions) has passed. These small kits are much more expensive than larger kits, or larger quantities of the individual chemical components needed. Therefore, once you begin to feel comfortable with all of the processes involved and you feel able to handle yet another variable, I suggest that you switch from the small-size kits to the larger quantities of materials needed and dilute only the quantity of working-strength chemicals you need at any given time. The remaining concentrates will have a longer shelf life than the working-strength solutions, and you will save yourself a lot of money in the bargain.

The actual dilution processes are quite simple, and directions for them are provided by the manufacturers and packaged with their products. You will have no difficulty following the directions. Do so carefully. Your first printing session is no time to improvise. Try to mix your working-strength chemicals about one day before you intend to use them and then store all working-strength solutions in the room in which you will do your processing, so that they can come to the room ambient temperature at which you will work. If this is not practical, and you find that you have to mix your chemicals immediately

before processing, first determine the ambient temperature where you are processing and, if it is above 70 F (21 C), use water at room ambient temperature to dilute the concentrated chemicals contained in the kit.

As each of the concentrated components of the processing chemicals is diluted to a 1-quart volume at its working strength, it should be stored in one of the brown glass (or plastic) bottles, and snugly capped. Label each bottle clearly to indicate its contents (developer, blix—a combination of bleach and fix—stabilizer, etc.), and the date on which the working-strength chemicals were mixed and stored. Make sure that the labels, and the ink used to make them, are waterproof, or at least reasonably so.

Once you have assembled the materials mentioned above, you are almost, but not quite, ready to make your first color prints.

MAKING MULTIPLE TEST PRINTS

Before you make your first color print, you will need to know how to make that print give you as much useful information as possible. Color printing is expensive and time consuming. If you begin to print by making an 8x10 of your standard negative, and your first print comes out of the processing drum

anything less than perfect, you will have to remake it. It is an excellent bet that no one will make a perfect first print. And no one will get the second print to come out perfectly. Most thoroughly experienced and competent color printers need at *least* three tries to get a truly good color print from a color negative—even with the most sophisticated lab equipment to help them. Color prints from slides are easier for experienced printers to make properly, but they are just as tough for beginners to make as are prints from color negatives.

A beginning color printer shouldn't be at all surprised at having to make 10 to 15 trial exposures before getting a perfectly color-balanced print with just the right density. Oh, you get color images all right. And most likely, by the second or third one you will be so enthusiastic about your newfound skill that you will consider mounting and framing your work. But when calm returns, you will realize that the Shirley you have printed looks very pale and wan, or mysteriously oriental, or perhaps even a bit seasick-green.

I'm not going into all of this to discourage you from color printing, but to emphasize the importance of making test prints that will quickly provide you with a maximum of information at a minimum cost. This is most conveniently done by making multiple images on a single sheet of paper. If it takes 12 different exposures to make your first

print perfectly, and your choice lies between making 12 8x10 prints or three 8x10 prints with four images on each one to be able to do it, it seems to me that only the very perverse would opt for the dozen separate prints.

So, before you turn out the lights to make your first exposure, take a few minutes to set up your easel to make four separate images with four separate printing conditions on a single sheet of 8x10 printing paper, without moving the easel during exposure.

The most common enlarging easel is the adjustable, two-bladed type. Most such easels, even inexpensive ones, allow the printer to vary the image size by changing the position of two movable blades and also to adjust the width of the print borders. The first thing to do with such an easel is adjust the border width to its minimum setting. Next, set the movable blades to give a 3x4½-inch image area. Now, take an 8x10-inch sheet of paper and cut a small portion of one corner of the sheet off. Put the cut-off corner into the easel's paper gripper and close the easel. Run a pencil around the inside of the easel blades, to define the No. 1 image area, and mark a No. 1 in the middle of the area. Open the easel and rotate the sheet of paper 90 degrees clockwise. Close the easel again and mark the No. 2 image area and repeat the procedure for Nos. 3 and 4. Open the easel and remove the sheet of paper. Check to see that there is no



Cut off one corner of an 8x10-inch sheet.



Close the easel and mark the No. 1 3x4½-inch image area.



Mark all the image areas and check to see that they don't overlap.



Put the cut corner into the paper grippers.



Open the easel. Rotate the sheet of paper 90 degrees. Close the easel and mark the No. 2 image area.



Attach black, lightproof-paper skirts large enough to prevent accidental exposure of other areas to easel blades.

A beginning color printer shouldn't be at all surprised at having to make 10 to 15 trial exposures before getting a perfectly color-balanced print with just the right density.

overlap of the image area borders. Then tape some black paper skirts to the blades of your easel to cover the portions of the paper that are not being printed. If you are making an exposure on image area No. 1, you certainly don't want stray light from the enlarger to fog image areas 2, 3, and 4, so it will be necessary to protect the three-quarters of the sheet that is not being exposed from the light that is exposing the remaining quarter. When you attach the skirts to your easel's blades, make them big enough to cover *all* of the paper in *both* the horizontal *and* the vertical positions it will assume on the easel.

Those of you who may already own easels that can make multiple images on the same sheet without moving the easel can disregard the information above and use your step-and-repeat easels to make test prints.

If you own a Speed-Ez-EI or a borderless easel, it will be a bit difficult for you to make multiple images conveniently on a single sheet of paper. Doing so involves using a black cardboard mask that covers three-quarters of the paper at a time, then flipping the mask, first top-to-bottom, then end-for-end, then bottom-to-top, to make four separate exposures on the same sheet. The image area being exposed is never in the same place for any two exposures, but must be centered under the enlarger lens four separate times.

Four-bladed easels can be set in a manner very similar to that described for two-bladed easels.

In case all of this discussion about easels is confusing, I think it will make *much more sense as I get into the procedures to use when making your*

test prints. But, if even then you can't quite get the hang of making four exposures on a single sheet of paper, not to worry! Just make single exposures and keep working until you begin to get the hang of it. I haven't recommended that you use four separate 4x5-inch pieces of paper, and process them all together, in the same daylight processing drum, at the same time, because while it is reasonably easy for an experienced printer to do so, it will probably not be very easy for a beginner to do. However, if the idea appeals to you more than putting four small images on one sheet of paper, try it.

And, finally, for those who may be wondering why I'm going to such great lengths to describe a process of making several images under several different printing conditions on one sheet of paper, when I could just as easily make test strips or use a projection print scale, I feel that test stripping is not as useful a process as the one I will recommend. Test stripping, for those who, mercifully, may be unacquainted with the procedure, is the process of exposing different portions of the same image, being projected on your enlarger's easel, for differing periods of time, and then when the print has been processed, comparing the densities of these sections, one to another, to see which one looks best for the image being printed.

Since the most convenient way to carry out this silly process is by moving a straight-edged dodge, in timed stages, across the full length or width of the print, the resulting unequally exposed sections are in the form of strips across the image.

Such a process may be useful for a full-frame image of an 18 percent gray card, on which every strip will contain the identical image information, but for real images of real subjects, I consider test strips to be just a bit better than useless. And I don't confine my opinion of the use of test strips to color images. I think they are just as useless for black-and-white work as well.

YOUR FIRST NEGATIVE-TO-POSITIVE PRINT Exposure

It is difficult enough to try to anticipate the characteristics of the printing hardware and software you will be using without the added complications involved with your initial efforts at printing some very peculiar and totally unknown (to both of us) type negatives. So I will simplify my own task here by

assuming you are a reasonable person and you will follow my advice and restrict your first-time printing activities to the use of a Kodak-produced standard negative and the other materials referred to earlier.

Remove the standard negative, and the print made from it, from the envelope bound into the *Color Dataguide*. Put the negative into your enlarger's carrier, with its emulsion side down (facing the lens). Use a soft, sable brush to remove any dust from the negative. If the brush doesn't get the dust off, try blowing it off with the blast from an infant's ear syringe. Don't use canned aerosol products for this dust blasting process or the Freon propellant will probably ruin your health, one way or another.

In case you can't figure out which side of the negative is the emulsion side, the easiest way I know of to do so is to look at the frame numbers. If they appear as normal, readable numbers, you know that you are looking at the film-base side. If the numbers are the wrong way around, you are looking at the emulsion side. Kodak suggests that if the arrows along the film's top edge point to the right you are looking at the emulsion side of the film.

Put the negative carrier in the enlarger. If your enlarger is a condenser type, open its filter drawer and insert a heat-absorbing glass and a CP2B filter. If your standard negative is on Vericolor II (or Kodacolor II), insert an acetate CP filter pack consisting of 80 magenta plus 100 yellow (80M+100Y). The values of CP filters are additive so that your pack can consist of two 40M filters plus an 80Y and a 20Y. If you are using a diffusion-type enlarger, with built-in dichroic filtration, dial in 60M+110Y.

If your standard negative is on CPS or Kodacolor-X and you are using a condenser enlarger, try a starting pack consisting of a heat-absorbing glass, a CP2B, and 50M+30Y. Try 25M+75Y for a diffusion enlarger with dichroic filters, but with many diffusion machines you can leave out the heat-absorbing glass and the CP2B, as the manufacturer has built them in. If you are in doubt, put them in.

Set your enlarger lens to its widest opening. Now, set the enlarger's head height to get a focused image, on the baseboard, of about 3½x magnification. To determine magnification, just measure the short dimension of the image projected on the baseboard. When it equals 3½ inches, you are at about 3½x magnification. This is so because the short dimension of a

35-mm negative carrier is just under 1 inch. If you are a stickler for exactness, measure your carrier's opening and multiply its short dimension by 3.5, then adjust the head height until the projected image's short dimension is equal to the product of your multiplication.

Place your preset, multiple-image-making easel (see page 52) on the enlarger's baseboard and put a sheet of printing paper (any black-and-white print on medium-weight (MW) resin-coated paper will be ideal, or single-weight (SW) or double-weight (DW) into the easel so that the back of the print is facing up (emulsion down). Turn on the enlarger lamp and, without changing the head-height setting, refocus the image. Move the easel to center the image in the image area, and make sure that it overlaps the borders just slightly. Turn off the enlarger.

Set 10 seconds on your enlarger timer (if you are so equipped). Place your unopened package of color printing paper and a pair of scissors near the enlarger.

Remove your daylight processing drum's paper-loading end cap. Remove the focusing sheet from the easel and use it to practice loading the drum, with the lights on and your eyes open. The drum's manufacturer will supply loading instructions. When you get to be very good at loading the drum with your eyes open, shut them and keep on practicing. When that is no longer a challenge, turn off the lights and practice loading the drum in the dark. When you have mastered that simple trick, try to remember where you put the end cap and, without turning on the lights, put the end cap back on the drum. As soon as you can load the paper (remember, the paper's emulsion faces the center of the drum) and cap the drum in total darkness with never a fumble, you will be ready to proceed.

With all of the darkroom lights out, wait a few moments until your eyes accommodate themselves to the gloom, then carefully check to insure that there are no light leaks. If there are, get rid of them. When you are sure that there is no white light entering your working area (turn on a No. 13 safelight if you are leery of the dark), open your box of color printing paper and remove one sheet of paper. (Remember, this procedure is based on the use of Uicolor resin-base, type-A color printing paper.)

Handle the paper only by the edges as much as possible. Most type-A

resin-coated paper has an emulsion that just loves to reproduce fingerprints accurately, so careful handling of this material is a must.

What I am about to say neatly contradicts what I just said, but in the dark, or even 4 feet from a No. 13 safelight, with this paper it can be very confusing for the first-time printer to



If the drum is to be agitated by a motor base, place drum on the base, then place a spirit level on drum to determine whether it is level. If it isn't, put shims under motor base legs, or, if the motor base is so equipped, change the setting of the leveling leg.



If you intend to agitate your drum manually by rolling it across a towel-covered surface, first orient the drum to the position it will be in during agitation, then place a spirit level on it, as shown, to determine whether it is level. If it isn't, try to adjust the supports of the surface upon which the drum rests to center the bubble.



Kodak (London) drum is designed to float in a tank of water. No leveling is required for this type drum.

determine which is emulsion side and which is back. Run your fingers over an area near the edge of both sides and determine which side offers the most resistance to the movement. That is the emulsion side. Hold the sheet just the way it came out of the box. You will know if the inner envelope is packed with sheets with their emulsion facing the bottom or top of the box. If you use a paper safe, remove the paper, still inside its inner wrapper, and place the package in the safe emulsion side down.

Grovel around in the vicinity of your enlarger until you locate the pair of scissors. Use them to cut a corner off your sheet of unexposed paper, just as you did when you set up your easel to make multiple exposures. Now, insert the cut-off corner of the sheet into the paper gripper of your easel. The cut-off corner will identify the No. 1 image area for you later. Be sure that you put the printing paper into the easel with its emulsion side facing up (toward the enlarger lens). Close the easel.

Now all you need to do is start the timer to make the first 10-second exposure. After the enlarger lamp goes off, locate the lens's aperture-control ring and twist it until it reaches its first click stop (one stop down from wide open). Now, open the easel and rotate the sheet of paper 90 degrees to its No. 2 image position. Close the easel. Start the enlarger timer to make your second 10-second exposure.

After the enlarger lamp goes off, close the lens down another stop and rotate the paper on the easel to the No. 3 printing position. Make your third 10-second printing exposure. Do the same for No. 4.

Congratulations, you have just made four, full-frame test exposures, all on the same sheet of 8x10 color printing paper. Now remove the paper from the easel, load it into the drum, put the cap on the drum, check to see that your box of paper is completely closed (with remaining paper inside and wrapped in its inner wrapper, of course), and turn on the normal white lights. Your time in the dark is over. If you do everything you have to, without a hitch, your total elapsed time in darkness, to produce four separate images, should be about 1 minute. That's not too frightening a prospect, is it?

Processing

The following procedures involve using the recommended chemistry/paper combination (Uicolor's R-2 chemistry and their

When you get to be very good at loading the drum with your eyes open, shut them and keep on practicing. When that is no longer a challenge, turn off the lights and practice loading the drum in the dark.

resin-base type-A paper) and keeping the room in which you do your processing at between 75 and 80 F. For other materials, simply disregard the processing section which follows, and see the appropriate sections of this series or follow the maker's instructions. For other temperatures, refer to the instructions supplied with the chemicals, or use the modified nomograph in this section to determine the appropriate presoak water temperature to use to replace the range of 105-110 F recommended.

Take your loaded drum to the wet processing area. If you can't have immediate access to a source of running hot and cold water, or to a drain, you needn't be overly concerned.

If you use a motor base to agitate your drum, place the drum on the motor base, in accordance with the manufacturer's instructions, then use a spirit level to check whether the drum is level, or close to level, from end to end. Use shims under the motor base to level the drum.

If you are going to agitate the drum by hand, first spread a Turkish towel where you want to roll the drum (in accordance with the drum manufacturer's instructions) and place the drum on top of the towel-covered surface in the position it will be during agitation. Use a spirit level to determine whether the drum is level from end to end. If not, level its support with shims. (If you can't manage to level it, just use 4 ounces of chemicals where I call for 2 and reuse each 4 ounces to make a second print.)

The Turkish towel placed below the drum provides a surface with *considerably more friction than a Formica or varnished counter or table*

top will. Friction between the drum and its supporting surface is necessary to prevent the drum from slipping rather than rolling. A daylight processing drum relies on a near uniform rolling motion to provide agitation and distribution of the small amount of liquid processing chemistry it contains.

Use a waterproof marking pen (DriMark's Medium Line, Nylon Tip Marker is the best one I know) to label each of three of your 4-ounce drinking glasses: "Developer," "Stop," "Blix." This done, fill each with 2 ounces of the working-strength chemical called for by its label. Set the glasses down in a convenient place near where the drum will be agitated, but out of harm's way. (Originally, R-2 chemical kits were supplied with a stabilizer solution. New kits may omit this chemical, though it can be purchased separately. Unstabilized prints must be washed twice as long as stabilized prints. I have always found stabilization to be a worthwhile, timesaving process and I advise its use. If your chemicals are supplied with stabilizer, or if you purchase it separately, proceed as follows: Either spill the 1 quart of stabilizer into an 8x10 tray and then place an 11x14 tray over the 8x10 tray to keep the stabilizer from evaporating into your working environment's air, or plan to do your stabilizing right in the drum. If you choose the former option, you will be following the chemistry manufacturer's recommendations and will eliminate drum-washing at the end of print processing. If you do your stabilizing in the drum, you will keep the amount of noxious fumes you have to breathe to a minimum, and keep your working environment as simple and uncluttered as possible. *But you will have to take pains to clean out your drum when you are finished.* I recommend the latter, but the former will be fine if you have a good ventilating system and lots of working room. If you decide to do your stabilizing in the drum, as I suggest, you will need to label a fourth 4-ounce drinking glass, "Stabilizer," in waterproof ink, fill it with 2 ounces of stabilizer and set it alongside the other three glasses already filled. If you decide to eliminate the stabilization step, simply double all agitation times in the final water-wash steps from 20 to 40 seconds.)

Remove the lid from a 1-gallon plastic pitcher and put your thermometer into it. Fill the pitcher from a hot water tap while watching the thermometer. If your hot water heater is anything like the ones

I've worked with, you will soon be getting tap water hotter than the highest temperature on the thermometer. Add cold water to keep the thermometer from breaking. By alternately adding hot and cold water and stirring with the thermometer, you should have little trouble obtaining a pitcher full of presoak water at some temperature between 105-110 F (40-43 C). Try to hit 107 or 108 F right on the money.

For wet processing area ambient temperature outside of the 75 to 80 F range, use the accompanying nomograph to determine the presoak water temperature required. Simply



place a ruler so that its edge connects the dot between the two temperature scales and the ambient temperature of the room in which you are working. The point where the edge of the ruler intersects the Presoak Water Temperature scale will determine the temperature of the presoak water you should use. For example, if your wet processing area (and therefore the liquid chemicals you have stored in that area) is at 70 F, you will need presoak water at 115 F. Make sure that your chemicals and your room are at the same temperature if you use this method.

Once the pitcher is filled, remove the thermometer and put the pitcher's cover back in place. Pour 1 pint of the presoak water from the pitcher into the processing drum, agitate the drum (on the motor base or by rolling it on the Turkish towel) for 30 seconds, then pour the water from the drum down the drain or into a bucket or dishpan. Pour another pint of presoak water from the pitcher into the drum and agitate the drum for another 30 seconds. Pour the water out of the drum and drain the drum for another 10 seconds. Gently shake the drum during this drain period to get all of the presoak water possible out of the drum.

Now you have brought the print and the drum up to the temperature required by Unicolor chemistry we are using, and you are ready to begin the print processing.

Place the drum on its legs (or with the pouring spout up if you are using a

vertical drum), pour 2 ounces of developer into the drum and begin to agitate the chemical over the surface of the print by rolling the drum back and forth on the Turkish towel (or start the motor base and let it do the agitation for you). Continue to agitate the drum (if manually, at about one revolution per second or faster) for 4 minutes, then pour the developer down the drain or into a bucket, etc., and continue to allow the drum to drain for 10 seconds. Gently shake the drum during the drain period to get all of the developer out of it.

Place the drum in a position to receive 2 ounces of stop bath. Pour the stop bath into the drum and agitate for 30 seconds. At the end of this period drain the drum while gently shaking it for 10 seconds.

Place the drum in a position to receive 2 ounces of blix. Pour the blix into the drum, agitate for 2 minutes, then pour the blix away and drain the drum, while gently shaking it, for another 10 seconds.

Place the drum in a position to receive the wash water. Pour about 8 ounces of the remaining presoak water from the pitcher into the drum. Agitate the drum for 20 seconds (40 seconds if stabilization is omitted) then drain the water off while gently shaking the drum, for 10 seconds more. Repeat this procedure four more times.

Now, if you elect to stabilize your print and want to do your stabilizing in a tray, open the drum, remove the print (gently, holding it only by the edges) and slide it into the stabilizer tray. Agitate the print in

the tray for 45 seconds. If you decide to do your stabilizing in the drum, simply leave the print in the drum at the end of the drain after the last wash step, add 2 ounces of stabilizer to the drum, and agitate the drum for 45 seconds. At the end of that period, open the drum, dump the stabilizer out, and remove the print.

No further chemical processing is carried out, but if you stabilized your print in the drum, be sure to wash the drum and its cap thoroughly with warm water once the print has been removed. If you have been collecting used chemicals and wash water in a container of some sort, now is the time to dump it all down the drain.

At this point you most likely have some fairly awful looking images on your wet sheet of paper. Take heart. Drying the images will change them a great deal for the better. Skip over the next two sections to the print drying instructions, which begin on page 58.

FIRST POSITIVE-TO-POSITIVE PRINT

Exposure

As I did with the preceding negative-to-positive print exposure section, I will begin this positive-to-positive one with a disclaimer . . . I will proceed on the basis that you are a reasonable person and that you understand that this procedure involves the use of Kodak's Ektachrome type 1993 paper and their R-500 chemistry. If you choose to use any of the several other available materials, you should disregard the instructions in this section and refer to the appropriate sections of this series or to the manufacturer's

instructions for applicable data. I needn't insist that you start your positive-to-positive printing career with a standard slide, as you can use any reasonably properly exposed slide. However, if you elect to make or purchase a standard transparency and use it for this maiden run, you will probably find the process a bit simpler and easier to understand.

There are several ways to put a 35-mm transparency into an enlarger. You can remove the slide from its cardboard mount and use any standard glassless (or glass if you prefer) carrier. This is without a doubt the best way to go, but it involves having to remount the slide when you remove it from the enlarger. This too is a simple task. If your enlarger's manufacturer makes a 2x2-inch cardboard-slide-mount carrier, buy one and simply drop your mounted slide into it. This isn't as good an idea as the first suggestion because it involves yet another piece of hardware and because most cardboard-mounted transparencies are buckled and can't be brought into sharp overall focus. Or you can modify a 2 1/4 x 2 1/4-square carrier, with a couple of pieces of black cardboard and some vinyl electrical tape, to accept mounted slides. This isn't the best idea for all of the reasons above, and the cardboard insert probably won't be exactly parallel to the rest of the carrier. But I must admit that I use such a carrier myself, when I'm in a hurry and results needn't be all that critical.

If you are very wealthy, put a 301A filter and a Wratten 2E filter into your enlarger's filter drawer, regardless of whether it's a condenser- or a diffusion-type machine. Make sure the 301A, which is a dichroic-type filter, is parallel to the negative (or perpendicular to the light path) and as close to the enlarger lamp as is possible. If there isn't any place you can put a 2- or 3-inch-square filter up close to the lamp, then, as a last resort, put the 301A right on top of the enlarger lens's back flange and very carefully reinstall the lens in the enlarger.

If you aren't very wealthy and you can't be bothered trying to accommodate the very expensive 301A filter, you can do quite well by inserting a heat-absorbing glass and a CP2B into the filter drawer of a condenser-type enlarger or any diffusion-type machine that is not already equipped with these filters.

You won't use any other filters to make your first positive-to-positive

DAYLIGHT DRUM PROCESSING INSTRUCTIONS FOR UNICOLOR R-2 CHEMICALS

Step	Solution*	Volume**	Duration of Agitation	Drain Period	Time at End of Step
1	Water at 108 F	16 oz.	30 sec	Dump	30 sec
2	Water at 108 F	16 oz.	30 sec	10 sec	1 min. 10 sec
3	Developer	2 oz.	4 min.	10 sec	5 min. 20 sec
4	Stop	2 oz.	30 sec	10 sec	6 min.
5	Blix	2 oz.	2 min.	10 sec	8 min. 10 sec
6	Water (70-100 F)	8 oz.	20 sec ****	10 sec	8 min. 40 sec
7	Water (70-100 F)	8 oz.	20 sec ****	10 sec	9 min. 10 sec
8	Water (70-100 F)	8 oz.	20 sec ****	10 sec	9 min. 40 sec
9	Water (70-100 F)	8 oz.	20 sec ****	10 sec	10 min. 10 sec
10	Water (70-100 F)	8 oz.	20 sec	10 sec	10 min. 40 sec
11	Stabilizer	2 oz. ***	45 sec	Dump	11 min. 25 sec

*All chemical solutions are used at room ambient temperatures between 75 and 80 F.

**Volumes given are for use with a typical, level 8x10-inch drum.

***If stabilizing is done in an 8x10-inch tray, use 32 ounces in the tray and process 16 prints in the chemical before discarding it.

Note: The water used for steps 6 through 10 is the remainder of the original 1 gallon of presoak water.

****Agitate for 40 seconds if you do not intend to stabilize the print.

I don't insist that you start positive-to-positive printing with a "standard slide," as you can use any reasonably properly exposed slide ...if you elect to make or purchase a "standard" transparency for this maiden run, you will probably find the process a bit simpler.

printing exposures.

Aside from the filtration requirements noted above, and the important fact that *no safelight whatsoever may ever be used when positive-to-positive printing materials are being handled in the darkroom*, the procedures I've offered for making both your first positive-to-positive and your first negative-to-positive test exposures are the same. I've quite deliberately designed them that way. That being the case, and because of the tight space limitations imposed upon me in this condensed version of my book, I'll have to ask you to return to page 53 and use the instructions there (for making your first negative-to-positive test exposures) for your initial positive-to-positive test exposure efforts. Just be sure to ignore any and all filtration data you find there and everything will turn out all right.

Processing

The procedures I detail involve your using the recommended chemistry/paper combination (Kodak's R-500/Ektachrome type 1993) and working in a room with an ambient temperature between 75 and 80 F. For other materials see the appropriate sections of this series or follow the manufacturer's instructions. For other temperatures, refer to the instructions supplied with the chemicals, or use the modified nomograph to determine the appropriate presoak water temperature to replace the 120 to 125 F recommended for the general procedure.

If you work in an unheated area and process at very low ambient temperatures in the winter time, you can use the general procedure

recommended here, if you first bring your chemicals up to 80 F and keep them at that temperature, with a water bath or some other means, throughout the processing steps. Read about preparing the drum in the negative-to-positive processing section.

Use a waterproof marking pen (DriMark's Medium Line, Nylon Tip Marker is the best one I know of) to label each of six of your 4-ounce drinking glasses: "1st Developer," "Stop," "Color Developer," "Rinse," "Blix," and "Stabilizer." This done, fill each one with 2 ounces of the working-strength chemical called for by its label, with the exception of the "Rinse" container, which should be filled with 4 ounces of potassium iodide working-strength solution. Set the half-dozen glasses down in a convenient place near where the drum will be agitated, but well out of harm's way.

Remove the lid from a 1-gallon plastic pitcher and put your thermometer into it. Fill the pitcher from a hot water tap while watching the thermometer. If your hot water heater is anything like the ones I've worked with, you will soon be getting water from the tap that is hotter than the highest temperature on the thermometer. Add cold water to keep the thermometer from breaking. By alternating hot and cold water from the taps, and by stirring constantly with the thermometer while doing so, you should quickly obtain a pitcher full of presoak water as some temperature between 120 and 125 F (44 to 46 C). Try to hit 122 or 123 F right on the money.

For wet-processing-area ambient temperatures outside of the 75-80 F range use the accompanying nomograph to determine the presoak

130 F. Make sure that your chemicals are at the same temperature as your room if you use this method.

Once the pitcher is filled, remove the thermometer and put the pitcher's cover on. Pour 1 pint of the presoak water from the pitcher into the processing drum, agitate the drum (on the motor base or by rolling it back and forth on the Turkish towel) for 30 seconds, then pour the water out of the drum and down the drain (or into a bucket, dishpan, etc.). Pour another pint of presoak water from the pitcher into the drum, agitate the drum for 30 seconds, then pour the water out of the drum and continue to drain the drum, while gently shaking it to help get all of the presoak water possible out of the drum, for another 10 seconds.

Now you have brought both the print and the drum up to a sufficiently high temperature to transfer the necessary amount of heat to the first developer and are ready to begin the print processing.

Place the drum on its legs (or with the pouring spout up, if you are using a vertical-type drum). Next, pour 2 ounces of the first developer into the drum and begin to agitate the chemical over the surface of the print by rolling the drum back and forth on the Turkish towel (or start the motor base and let it do the agitation for you). Continue to agitate the drum (if manually, at about one revolution per second or faster) for 1½ minutes, then pour the developer out and continue to allow the drum to drain, while gently shaking it, for another 10 seconds.

Place the drum in a position to receive 2 ounces of stop bath. Pour the stop bath into the drum, agitate it for 30 seconds, then drain the drum, gently shaking it for another 10 seconds.

Place the drum in a position to receive wash water. Add a pint of the presoak water remaining in the pitcher to the drum, agitate for 30 seconds, drain, while gently shaking the drum, for 10 seconds. Repeat. These two wash steps will also serve to bring the print and the processing drum back up to a high temperature to transfer the required amount of heat to the color developer.

Pour 2 ounces of color developer into the drum, agitate for 2 minutes, then drain the drum, gently shaking it for another 10 seconds.

Add the 4 ounces of rinse solution to the drum, agitate for 20 seconds, then pour it out and drain the drum, gently shaking it for another 10 seconds.

Add the blix to the drum, agitate for 1 minute, 20 seconds, pour the blix out of



water temperature required. Simply place a ruler so that its edge connects the dot between the two temperature scales and the ambient temperature of the room in which you are working. The point where the edge of the ruler intersects the Presoak Water Temperature scale will determine the temperature of the presoak water you should use. For example, if your wet processing area (and therefore the liquid chemistry you have stored in that area) is at 70 F, you will need presoak water at

the drum, and continue to drain it, gently shaking it for another 10 seconds.

Pour a pint of the remaining presoak water from the pitcher into the drum. Agitate for 30 seconds, then dump the wash water and drain the drum for 10 seconds more, while gently shaking it. Repeat.

Pour 2 ounces of stabilizer into the drum, agitate for 30 seconds, then spill the stabilizer out, continue to drain, with some gentle shaking, for another 10 seconds.

Finally, place the drum in a position to receive the final water wash. Add a pint of the remaining presoak water from the pitcher. Agitate for 15 seconds, then remove the drum's end cap and, gripping it only by the edges, carefully remove the print.

You've done it! The chemical processing part of making your first reversal print has come to an end. Just be sure to rinse the processing drum and its cap thoroughly with warm water once the print has been removed. And, if you have been collecting used chemicals and wash water in a container of some sort, now is the time to dump it all down the drain.

At this point you will have some fairly peculiar-looking images on your wet sheet of paper. However, don't let it worry you; drying will do a great deal to improve them.

Print drying

Now that you have your first exposed, processed, and very damp 8x10 sheet of resin-coated color printing paper in hand, you probably want to dry it. For the most part, color printers are confronted

by one paramount requirement where print drying is concerned, and that requirement is *speed*. With virtually all of the contemporary color printing papers, you must get the print bone dry before any kind of color balance or density judgment can be made. So while it is entirely possible to lay a color print flat (emulsion-side up) on a piece of plastic screen and wait for nature to take its course and dry it, it is far more practical and much faster to lay the wet print, emulsion-side down, on a smooth, clean sheet of glass, and use a good, heavy squeegee with considerable muscle behind it, to get as much moisture as possible off both sides of the print. Most squeegees will leave a black deposit on the print back when you do this, so it is a good idea to clean this black, rubber residue off the back of the print with a paper towel before you put a fingernail or a knife blade between the print and the glass and remove the now much less damp print from it.

While holding the print in the air, you can take a few wiping swipes at the glass with a paper towel to get it dry, too, before you put the print back down on it, this time with its emulsion side up.

I never use a squeegee on the emulsion side of any kind of a print, black-and-white or color, and most particularly not on any kind of a plastic-coated print. Instead I use a squeezed-dry Kodak Photo Chamois to remove quickly any last traces of surface moisture from the print's emulsion. However, there are times when I am too lazy to get my piece of chamois from its water-and-sodium-bicarbonate bath, rinse it out thoroughly in running cold water, and then press as much of the rinse water out of it as I can. It is at such

times that I simply unroll still another sheet of paper towel and gently dry the surface of my print with it. It's not the best idea to use paper towel on tender emulsion, but if you're reasonably careful, it does work.

Once you have squeegeed the back and chamoised (or toweled) the front of your print, it will be rather dry. Plastic coated prints can't absorb much water into their paper fibers, because the only place those fibers come in contact with water is at the extreme edges of the print (where the plastic coating has been cut when the paper was sliced from roll stock into sheets) so the only significant amount of water left will be that which is still in the emulsion layers themselves. It can now be gotten out very quickly indeed.

My favorite tool for drying prints from this stage onward is a 1,000-watt hair blow-drier. I simply turn the drier speed up to high, turn the temperature up to maximum and let it blast hot air at the print lying, emulsion side up, on the sheet of glass. It takes me about 90 seconds to get the emulsion side of the print bone dry that way, and about another 30 seconds to lift the print up off the glass and blast any traces of moisture off the back of the print.

When I am really in a hurry, I turn a flat bed drier up to high, pull the canvas apron over it, lay the print (after first squeegeeing and chamoising it) on top of the apron (never on top of the metal bed of the drier itself, for fear of melting the plastic coating of the print) emulsion-side up, and blast the emulsion side with my hair drier while the flat bed drier cooks the back of the print. Drying prints this way I can go from a sopping wet one to bone dry one in under 90 seconds total time.

There are as many variations on these basic techniques as there are color printers. Other commonly used techniques include: squeegeeing the emulsion surface, wiping the back and then putting the print, emulsion-side up, on the apron of a very hot flat-bed drier until both sides are cooked dry; hanging the soaking wet print up with a pair of clothespins and letting it drip and air dry; squeegeeing the print and putting it into a resin-coated-paper-drying tunnel; putting the prints in very close proximity to a photoflood lamp; and, in a pinch, I have even known printers to use the hot top-platen surface of a dry-mounting press as a print drier. I have even, on very rare occasions, used a 200 F oven and a large cookie sheet to do the job.

You can choose among these various

DAYLIGHT DRUM PROCESSING INSTRUCTIONS FOR EKTAPRINT R-500 CHEMICALS

Step	Solution*	Volume**	Duration of Agitation	Drain Period	Time at End of Step
1	Water at 123 F	16 oz.	30 sec	Dump	30 sec
2	Water at 123 F	16 oz.	30 sec	10 sec	1 min. 10 sec
3	1st Developer	2 oz.	1 min. 30 sec	10 sec	2 min. 50 sec
4	Stop	2 oz.	30 sec	10 sec	3 min. 30 sec
5	Water***	16 oz.	30 sec	10 sec	4 min. 10 sec
6	Water***	16 oz.	30 sec	10 sec	4 min. 50 sec
7	Color Developer	2 oz.	2 min.	10 sec	7 min.
8	Rinse	4 oz.	20 sec	10 sec	7 min. 30 sec
9	Blix	2 oz.	1 min. 20 sec	10 sec	9 min.
10	Water***	16 oz.	30 sec	10 sec	9 min. 40 sec
11	Water***	16 oz.	30 sec	10 sec	10 min. 20 sec
12	Stabilizer	2 oz.	30 sec	10 sec	11 min.
13	Water***	16 oz.	15 sec	Dump	11 min. 15 sec

*All chemical solutions are used at room temperatures between 75 and 80 F.

**Volumes given are for a typical, level, 8x10 drum.

***Water for the remainder of the 1 gallon of presoak water

Now that you have in hand one dried 8x10 sheet of color printing paper with four differently exposed images of your "standard" negative on it, it is time to discover just how close you were able to come to getting and acceptable image in the four tries....

techniques, but be forewarned that if you do decide to squeegee the emulsion side of your prints, do so with extreme care. Resin-coated papers have very tender emulsions. And, what's more, those black, rubber-residue marks are much harder to deal with on the emulsion side of a print than they are on its unimportant and unseen back side. If you can buy, beg, borrow or steal a hair blow-drier, I recommend that you do so as it is the best print drying tool I know of.

A final note here: never try to ferrotype glossy resin-coated paper. The moisture in the emulsion won't be able to escape through the plastic-coated rear surface of the print and the results will often be catastrophic, and always unsatisfactory. Glossy-surface paper should, if at all possible, be dried with heat or heated air to achieve the best appearance.

HOW TO EVALUATE YOUR FIRST PRINTS WITHOUT REALLY KNOWING WHAT YOU ARE DOING—PROGRAMS FOR IMPATIENT PRINTERS

Negative-to-positive print evaluation

Now that you have in hand one dried 8x10 sheet of color printing paper with four differently exposed images of your standard negative on it, it is time to discover just how close you were able to come to getting an acceptable image in the four tries you had, and if need be, how to straighten things out to get a considerably better set of four test images the next time. You will be able to do this, without any real knowledge of the processes involved, with a few tools, including the Negative-to-Positive Color-Print-Evaluation Flow Chart, the

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Negative-to-Positive Ring-Around, the Exposure-Time-Correction Table, which follows, and the standard print, which is in the little white envelope bound into the *Kodak Color Dataguide*.

Let's begin by looking at the Negative-to-Positive Color-Print Evaluation Flow Chart. You start, naturally enough, at the top. The uppermost circle refers to your 8x10 sheet of paper with four images on it. Follow the arrow from the circle, down to the first instruction box. It tells you to *USE RING-AROUND TO CHECK PRINT DENSITY*. Since you don't know any better, you will have to do what you are told. You will find a negative-to-positive ring-around on page 64.

It is nothing more than a collection of prints made from a Kodak standard negative, much the same as the ones you have made, displayed so as to illustrate best increasing degrees of print problems. The image at the center of the ring-around has the best density and color balance obtainable from the standard negative used to make it, with the materials and processes used (Unicolor's Resin Base Type-A paper and their R-2 chemistry used with the manufacturer's rapid process). The three images directly above the one in the center represent overexposure through the correct printing filter pack. The three images directly under the center one represent underexposure through the correct printing filter pack. The six other lines, of three images each, represent the proper exposure through increasingly incorrect printing filter packs. These images are all labeled according to the problem color seen in the print. For example, the image in the uppermost right-hand corner is labeled *+40 YELLOW*. This indicates that it was made with a filter pack that resulted in a print having .40-density too much yellow dye in it.

Similarly, the print appearing in the lower-left corner of the ring-around, labeled *+40 BLUE*, appears to be considerably too blue, the print closest to it, labeled *+20 BLUE* seems to be somewhat less too much too blue, and the print labeled *+10 BLUE* next to it has even less excess blue color when compared to the *PERFECT* print at the very center of the ring-around.

Now you know everything you need to know, for the moment, about how a ring-around is laid out, and you are ready to follow the arrow down into the first decision box, which asks you *IS PRINT EXPOSURE OK?*

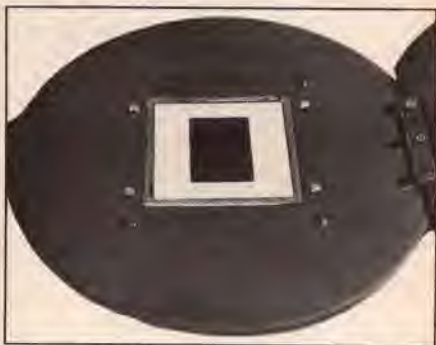
The way you answer this question is to



A 2 1/4 x 2 1/4-inch carrier can easily be modified to accommodate a 2x2-inch mounted slide by taping a simple cardboard frame into the carrier. Make sure that the opening in the cardboard is larger than the opening in the slide mount. Try to keep the cardboard insert flat and parallel to the carrier. This is the bottom of a modified Beseler carrier.



This is the top of the cardboard-modified carrier. A narrow black cardboard rim is cemented to the bottom layer of cardboard and serves to keep the 2x2-inch mounted slide centered in the opening.



The mounted slide is simply dropped into the cardboard insert, then the carrier is closed and placed in the negative stage of the enlarger. Thus the slide is printed with its mount. Although this is cheap and handy, it's not advisable to get top-quality work. For best results, always take the slide from its mount and use it in a normal carrier.

determine whether one of your four test images has the proper image density. To make this check compare them to the seven prints that make up the ring-around's vertical column. Disregard any consideration of color balance problems here; just do as the instruction box told you and check which one of your four test images comes closest to the overall density shown by any of the prints in the ring-around's central vertical display. Hopefully, at least one of your four images will fit at least somewhere into the density range covered by the vertical column.

Let's suppose for the moment that the densest of the four images on your sheet, your No. 1 image, is about as dark as the -1 STOP example on the ring-around. That would indicate that you did not get enough exposure, even with your enlarger lens wide open. In this case you would leave the decision box along the *UNDER* line and repeat the original exposure and processing steps, but this time using more exposure. Follow exactly all of the procedures previously outlined, except this time use 25 seconds of exposure time. When the new print, containing four more-heavily exposed images is processed and dried, you start the evaluation procedure all over again.

Now, let's look at the other side of the coin. Suppose your initial effort contains four images, the lightest of which, image No. 4, is about as dark as the $+1$ STOP example on the ring-around. In that case you would have overexposed everything on your first sheet. Make a second set of four images on a single 8x10-inch sheet, but this time cut exposure time down to



That's \$68 worth of 301A filter (in early 1976) sitting on the back flange of lens. This is a workable but not desirable location for the filter, but it is commonplace because Kodak doesn't make this filter in sizes large enough to fit many enlargers' filter drawers. If they did, prices would be astronomical.

2 seconds. When the new print is processed and dried, you begin the print evaluation procedure from the top of the chart again.

If your sheet of paper is totally black, brown, or gray, chances are you somehow managed to fog it with white light somewhere along the way. Repeat the original printing, processing, and drying steps again, but be much more careful of white light this time.

If your sheet of color printing paper is completely blank (white), chances are that you mistook the back of the paper for the emulsion side when you first put it on the easel. Repeat the original printing, processing, and drying procedures again, but this time make sure you get the paper's emulsion side facing the enlarger's lens during the printing steps.

If any one of your four images has a

density (overall print darkness) that falls somewhere between the $+1/2$ STOP and the $-1/2$ STOP examples in the ring-around, you can disregard all of the others on the sheet and continue your print evaluation. You leave the decision box along the *YES* arrow that brings you to an instruction box that tells you to *USE STANDARD PRINT AND RING-AROUND TO CHECK FOR COLOR CAST*. To do so, compare the image under consideration to the standard print, from the little white envelope in the *Color Dataguide*, side by side. Your own two eyeballs will quickly tell you whether the two images are a close color match. Be sure that you use the same light source to illuminate the two images. Fluorescent lamps or photoflood lamps are all right, but even a 100-watt incandescent bulb will do for our initial purposes here.

It is a virtual certainty that your image and the standard print won't be a close color match. You can confirm this by looking at the 18 different off-color examples shown on the ring-around. But it is remotely possible that you have lucked out.

This brings you to the next decision box, which asks you, *IS COLOR BALANCE OK?* If it is, as I just mentioned, you have somehow, quite by accident (and benefiting from my excellent starting-filter-pack and printing-time instructions), managed to make a perfect print on your first try. Congratulations! You get to leave this decision box by way of the *YES* arrow to discover that you have a finished print. Too bad, fella! . . . Now you have to read the rest of the series to find out how to keep up the good work.

The rest of you follow me. We'll leave the decision box by way of the left *NO* arrow and compare our prints to those on the ring-around. These offer examples that are too red, too blue, and too green. Did you find anything that looked like your off-color print? If you did, just follow the appropriate *YES* arrow and do your best to follow the instructions. Or better yet, why not wait for the rest of us?

If you did not find that any of those ring-around images looked like your print, you have managed to reach the far left *NO* arrow that points to a circle with a *B* in it.

Check the chart and you will find another circle with a *B* in it. An arrow leads out of that circle and brings you into the decision box that asks you to compare your print to the too-yellow ones shown in the ring-around. If your

EXPOSURE TIME CORRECTIONS FOR ACETATE (CP) FILTER CHANGES TO BE APPLIED TO ORIGINAL PRINTING TIMES*

FILTER TYPE		EXPOSURE TIME CORRECTION	
Color	Density	For Each Filter Added	For Each Filter Subtracted
YELLOW	.05 thru .80	+10 percent	-10 percent
MAGENTA	.05 and .10	+25 percent	-25 percent
	.20	+50 percent	-50 percent
	.40	+90 percent	-90 percent
CYAN	.05	+10 percent	-10 percent
	.10 and .20	+25 percent	-25 percent
	.40	+90 percent	-90 percent

*These time change values do not apply for dichroic filters.

Exposure time corrections required for such filters may vary from enlarger to enlarger. I would suggest, as a starting point, that you try to use between one-third to one-half the corrections called for here.

There are two basic types of colors in photography:

- The additive primaries—red, green, and blue.
- The subtractive primaries—yellow, cyan, and magenta.

print isn't too yellow, by following the *NO* arrows, you will determine whether it is too cyan or too magenta, once again by comparing it to the examples shown in the ring-around.

If, by the time you have checked the print against the too-magenta examples, you still have not found a color that resembles the one that is adversely affecting your print, you have two ways to go: either up the top *NO* arrow to the box that tells you, *IF YOU GOT HERE FROM THE CIRCLED B YOUR PRINT IS OK*, or out the far right *NO* arrow to an encircled *C*. Don't take the upper route if your eyes tell you there is an overall color cast in your print. If you follow the *C* route you will find yourself back again in the decision boxes that ask you whether the print is too red, too blue, or too green. This time, though, be more careful and see whether one of these three additive primaries isn't your problem color. Just keep on trucking until you find out which of the six options offered is the one that comes closest to looking like your problem color. You probably won't find any *exact* match. All you have to do is find one of the problem colors that looks *similar* to the one you have in your print.

If you can't perform this task, there are two sad possibilities to consider. Perhaps you weren't listening when I said not to try to check any of your prints unless at least one of them was *no more than one-half a stop away from having the proper density*. If you thought you would fake your way through the maze with a print outside of this density range, you have wasted your time. Go back to the top of the chart and follow all of the density instructions before you start back through the color evaluations

again. The other possibility is that you are color-blind. No, I'm not kidding. See your family doctor to determine this.

For the rest of you, let's run through a few examples of how to use the remainder of the evaluation chart. But, before I can offer any examples, I will have to provide you with some dumb rules. I call them dumb, because I just present them without explaining them. They are all amply covered elsewhere, but this section has been provided for people who can't wait to read the series and want to race right into the darkroom and print. Now that I've chastised you, here are the rules:

- There are two basic types of colors in photography:
The additive primaries—red, green, and blue
The subtractive primaries—yellow, cyan, and magenta.
- For our purpose here, red is made up of yellow and magenta, blue consists of magenta and cyan, and green consists of cyan and yellow.
- Each of these six colors has an exact opposite color, called its complementary. Cyan is red's complementary. Yellow is blue's complementary. Magenta is green's complementary.
- Never have filters of all three of the subtractive primary colors in the printing filter pack at one time.
- Always try to use only yellow and magenta filters in the printing filter pack.
- Filter density values are additive. If you need .25 magenta filtration you can get it by adding a .20 magenta filter and a .05 magenta filter. Similarly, .40 red filtration is obtained by using a .40 yellow filter in combination with a .40 magenta filter.

Let's say that you have compared your prints to the ring-around's vertical column for density and found that your No. 4 image was very close in density to the *PERFECT* print at the center of the ring-around. Your enlarger lens's largest opening is $f/4$, so you know that your No. 4 image was made at $f/11$ and the exposure time was 10 seconds. You used a Vericolor II, Kodak standard negative in your condenser enlarger and printed with my recommended filter pack, consisting of a heat-absorbing glass, a CP2B, and 80M + 100Y. You have compared your No. 4 image to the standard print and to the various examples of color problems in the ring-around and decided that your No. 4 image looks as though it has the same

kind of color cast as those in the ring-around showing plus-cyan values do.

You follow the *YES* arrow down from the *TOO CYAN?* decision box, to the instruction box below it, which tells you to *USE RING-AROUND TO DETERMINE DENSITY OF COLOR CORRECTION NEEDED*. To do so, simply compare your No. 4 image to the +10, +20, and +40 *CYAN* illustrations to decide which one its overall cyan cast resembles most closely. Let's say you find that your No. 4 image looks pretty much the way the +20 *CYAN* one does. Follow the arrow from the instruction box down into the next decision box, which asks you, *IS THE PROBLEM COLOR IN THE FILTER PACK?* You had only magenta and yellow in your printing filter pack so you will have to leave this box along the *NO* line, to enter the next decision box, which asks, *ARE TWO OTHER SUBTRACTIVE PRIMARIES IN THE FILTER PACK?* Your answer to that question is yes, so you leave the decision box along the *YES* arrow to arrive at an instruction box that tells you to *SUBTRACT EQUAL AMOUNTS OF BOTH OTHER SUBTRACTIVE PRIMARIES FROM THE FILTER PACK*. You open up your enlarger's filter drawer and remove a 20M and a 20Y filter to comply with this instruction, then you proceed down the arrow to the next decision box, which asks, *IS IT NECESSARY TO REDUCE ONE OR BOTH OTHER SUBTRACTIVE PRIMARIES TO ZERO?* Since you took 20M and 20Y away from an 80M + 100Y pack, your new filter pack is 60M + 80Y, and your answer to that question is no. Therefore, you leave the decision box along the *NO* line and enter an instruction box that tells you to *CORRECT PRINTING EXPOSURE FOR NEW FILTER PACK COMPOSITION AND REPRINT*. In order to comply with this instruction you will first have to refer to the Exposure Time Corrections table. It tells you that you should decrease the exposure time by 10 percent for the yellow filter removed and by 50 percent for the cyan filter you have pulled from the pack. That means that you need to make a 60 percent adjustment to your printing time, so your new, hopefully perfect, exposure will be made at $f/11$ for 4 seconds rather than for the 10 originally used. Now, to finish complying with the instructions in this box you will have to make a new set of four exposures through the new filter pack. Since the table on time corrections gives only approximate values of exposure

changes required, it will be best if your next four test images bracket the 4-second recommended exposure. You might set your timer at 4 seconds and make image No. 1 with an f/5.6 lens opening, No. 2 at f/8, No. 3 at f/11, and No. 4 at f/16. Now you have all of the information you need to reprint, reprocess, and dry the new print, and return to the top of the chart to begin to evaluate your corrected images.

You should note that you can also use the multiple image test procedure to bracket color changes as well as density changes. You may, for example, at times want to print a set of four test images, each one with .05 more magenta filtration than the last, to determine accurately the effect of small filtration changes. You can even combine filter and exposure variation both, in the same set of four test images, but make sure to keep an accurate data sheet if you do this type of test-image making.

Once you do manage to make a perfect print, you most likely will have gotten over your anxiety about your ability to do so, and hopefully will want to read the rest of the series before moving on to greater exploits of color printing. However, for those who just can't wait, instructions for a simple procedure that will allow you to make the exposure time adjustments necessary for changing the enlarger's magnification are offered in the *Magnification and Exposure Time* section.

As much as I would like to leave this whole sordid mess right here, I can't because I feel obligated to take you through some of the other loops possible to keep you from getting lost. But from here on in we will go a lot faster, so hang on.

Suppose your initial print had looked as though it were too magenta. Then you would have left the *IS THE PROBLEM COLOR IN THE PACK?* box via the YES arrow, added magenta filtration to the pack, and added time to the exposure.

Suppose you had originally printed with a 20Y + 50M pack and decided that the result obtained looked like the +40 CYAN example. When you reached the *SUBTRACT EQUAL AMOUNTS OF BOTH OTHER SUBTRACTIVE PRIMARIES FROM THE PACK* instruction you would only be able to get 20Y and 20M out of the pack. Then you would have to leave the *IS IT NECESSARY TO REDUCE ONE OR BOTH OTHER SUBTRACTIVE*

PRIMARIES TO ZERO? decision box along the YES line because your pack would consist of only 30M after the subtraction. Leaving this way would bring you to the *IS THE NEEDED CORRECTION COMPLETED?* decision box. You would have to answer this one "no" because you have so far only been able to make a 20 correction where you need a 40 correction. Following the NO arrow brings you to the instruction to *ADD THE PROBLEM COLOR TO THE FILTER PACK*. You complete your correction then by adding 20 cyan to the pack. Your new pack is 20C + 30M. Now, correct your printing time by subtracting 10 percent for the yellow filter removed and 50 percent for the magenta filter pulled, and add 25 percent for the cyan filter added. This yields a net change of minus 35 percent of exposure time.

Additive primary problems

Suppose you found your print was green and it looked like the +20 GREEN example. Your original printing filter pack was 80M + 100Y. Green is the problem color and its complementary, magenta, is certainly in the pack. Removing 20M from the pack does not reduce the pack's magenta content to zero. An exposure correction of 50 percent reduction in the printing time is called for.

If the problem color was red because cyan, the problem color's complementary, is not in the pack, the correction called for would be the addition of both magenta and yellow filtration to the pack and an appropriate increase in the printing exposure time.

If the problem had looked like a +40 BLUE one and the original filter pack had been a 30Y + 70M, you would be able to correct most of the problem by removing 30Y, but doing so would reduce the yellow content of the pack to zero. However, this would not quite correct the color imbalance. To finish the job you would have to add 10 magenta and 10 cyan to come up with a final pack of 80M + 10C. The exposure time correction would be -10 percent for each of the two yellow filters removed and +25 percent and +10 percent for the magenta and cyan filters added. This would yield a net increase to exposure time of +15 percent.

So much for evaluating negative-to-positive prints without knowing what you are doing.

POSITIVE-TO-POSITIVE PRINT EVALUATION

Just so you won't feel that I am a sneak and a cheat, I want to admit, out front, that if you just finished reading the preceding section, you will experience a serious feeling of déjà vu when you start reading this one. I have quite deliberately made the negative-to-positive-evaluation and positive-to-positive-evaluation sections as nearly identical as possible. I used this procedure not *only* because I am lazy, but also because once you have made something perfect there is little room for improvement. But don't be fooled by the near-identical language of the two sections into thinking that the processes are at all alike. They very emphatically aren't.

Obviously then you will have to read through this section, too, if you want to follow my simplified procedure for positive-to-positive print evaluation. I hope that those of you who haven't already read through the preceding section, but turned here directly to obtain the information you need, will simply forget this whole silly apologetic paragraph.

I have every reason to expect that you now have a fully dried 8x10 sheet of Ektachrome type 1993 reversal color printing paper, containing four differently exposed images of the slide you chose to print. Now it's time to find out just how close to producing an acceptable image you were able to get in the four tries you had, and if need be, to make whatever corrections to your exposure time or printing filter pack you need to get a better set of four images the next time.

You can accomplish all of this, with no particular understanding of what you are doing, by slavishly following the step-by-step instructions provided by the Positive-to-Positive Color Print-Evaluation Flow Chart and by making use of the Positive-To-Positive Ring-Around, which follows, and referring to the Exposure Time Corrections table.

The evaluation chart just looks awful. In reality it's a pussy cat. Just follow the arrows, comply with its simple instructions, answer its easy questions, and in a very short time you will have mastered the maze and simultaneously produced a fine looking print.

You start to determine just how good those four images you are holding are by entering the chart at the circle at the very top and traveling down the first arrow out of the circle to a rectangular instruction box that tells you to *USE*

Once you do manage to make a perfect print, you most likely will have gotten over your anxiety about your ability to do so, and hopefully, will want to read the rest of the series before moving on to greater exploits of color printing.

RING-AROUND TO CHECK PRINT DENSITY. The positive-to-positive ring-around is reproduced here. It is nothing more than a collection of prints made from a Kodak standard transparency, displayed so as to illustrate best increasing degrees of print problems. The image at the center of the ring-around has the best density and color balance I could obtain from the transparency I used, and the materials and processes I used, to make it (Kodak's Ektachrome type 1993 resin-coated reversal paper and Ektaprint R-500 chemistry). The three images directly above the one in the center represent overexposure through the correct printing filter pack. The three images directly under the center one represent underexposure through the correct printing filter pack. The six other lines, of three images each, represent the proper exposure through increasingly incorrect printing filter packs. These images are all labeled according to the problem color seen in the print. For example, the image in the uppermost left-hand corner is labeled **+40 RED**. This indicates that it was made with a printing filter pack that resulted in a print having .40-density too much yellow and magenta dye in it (yellow and magenta combined are seen as red).

Similarly, the print appearing in the lower-right corner of the ring-around, labeled **+40 CYAN**, appears to be considerably too cyan; the print closest to it, labeled **+20 CYAN**, seems to be somewhat less too much too cyan; and the print next in line to it, labeled **+10 CYAN**, has even less of an excess overall cyan color cast when it is compared to the **PERFECT** print at the

center of the ring-around.

Now, armed with this knowledge of how a ring-around is laid out and what it is intended to show, you are ready to follow the arrow down into the Evaluation Chart's first diamond-shaped decision box, which asks you, **IS PRINT EXPOSURE CORRECT?** The way you answer this question is to determine whether one of your four test images has the proper density. To make this check, compare them with the seven images that make up the ring-around's vertical column. Disregard any consideration of color balance problems here. Just do as the instruction box tells you to, and check which one of your four test images comes closest to the overall density shown by any of the images in the ring-around's central vertical display. Hopefully, at least one of your four test images will fit somewhere into the density range covered by the vertical column. Now, let's suppose for the moment that the densest (darkest) of the four images on your sheet, your No. 4 image, is about as light as the **+1 STOP** example on the ring-around. That would indicate that you got too much exposure, even with your lens closed down four stops from its widest opening. In this case you would leave the decision box along the **TOO LIGHT (OVER)** line and repeat the original exposure and processing steps, except that this time you would use less exposure time. Follow all of the procedures previously outlined exactly, except this time around use only 2 seconds of exposure time. When the new print, containing four more lightly exposed (therefore darker) images is processed and dried, start the evaluation procedure all over again.

Now, suppose that your initial effort contains four images, the lightest of which, your No. 1 image, is as dark as the **-1 STOP** example on the ring-around. In this case you would have underexposed everything on your first sheet. Make a second set of four images on a single 8x10-inch sheet, but this time increase your exposure time to 25 seconds. When the new, more heavily exposed (and therefore lighter) print is processed and dried, you begin the print evaluation all over again from the top of the chart.

If your sheet of color printing paper is totally brown, gray, or white, you have probably managed to fog it with white light somewhere along the way. Repeat the original printing, processing, and drying steps again, but be much more careful of white light this time.

If your sheet of color printing paper is

completely black, chances are that you mistook the back of the paper for the emulsion side when you first put it on the easel. Repeat the original printing, processing, and drying procedures. But this time make sure that you get the paper's emulsion side facing the enlarger's lens during the printing steps.

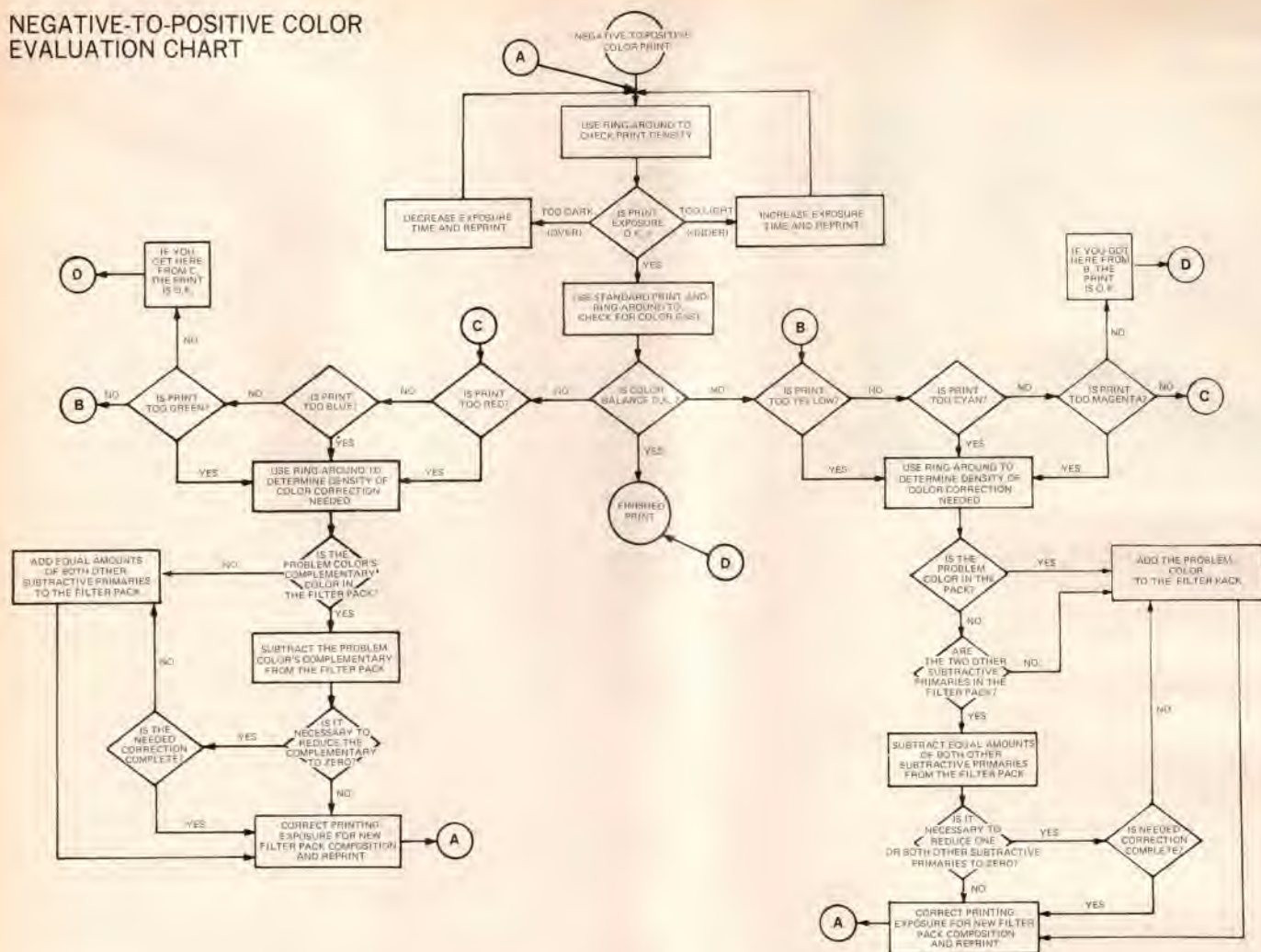
If any one of your four images has a density (overall darkness) that falls somewhere between the **+1/2 STOP** and the **-1/2 STOP** examples in the ring-around, you can disregard all of the others on the sheet and continue your print evaluation. If you are in this fortunate group, you leave the exposure decision box along the **YES** line, which brings you to an instruction box that tells you to **USE THE ORIGINAL TRANSPARENCY AND RING-AROUND TO CHECK FOR COLOR CAST**. To do so, first compare the image under consideration to the transparency, side by side. Your own two eyeballs will quickly tell you whether the two images are a close color match. Be sure that you use the same light source to illuminate both the printed image under examination and the transparency.

Fluorescent lamps or photoflood lamps are all right, but even a 100-watt incandescent bulb will do in a pinch.

It is a virtual certainty that your image and the original slide won't be a close color match. You will probably be able to confirm this by looking at the 18 different off-color examples shown on the ring-around. But it is remotely possible that you have lucked out.

In any event it's time to move along down the next arrow to the next decision box, which asks, **IS COLOR BALANCE OK?** If you did luck out, your answer is yes and you exit this box along the **YES** arrow to discover that you have a finished print. You are a lucky person all right—now you have finished your introduction to positive-to-positive color printing and will have to read the rest of the series since you are no longer a mere beginner. If only to avoid having to read anything more taxing, I suggest that you stay with the rest of us for the time being, though, and continue to explore the remainder of the chart. Or, if that invitation doesn't turn you on, simply rejoin us at the end of this section and I'll give you a clue as to how to get from those silly little 3x4 1/2-inch images to larger print sizes.

As far as the rest of you are concerned, you will all have to leave the decision box by way of one **NO** arrow or the other. Let's shuffle off along the **NO** arrow that points to the left, and

NEGATIVE-TO-POSITIVE COLOR
EVALUATION CHART

compare our prints to the ones on the ring-around that offer awful examples of prints that are too red, too blue, and too green. See if you can find anything that looks like your off-color print. If you can, just follow the appropriate *YES* arrow and do your best to follow the instructions.

If you don't find that any of these ring-around images looks like your print, you will manage to reach the left-most *NO* arrow, which points to a circle with a *B* in it. Check the chart and you will find another circle with a *B* in it. An arrow leads out of that circle and following it brings you into a decision box that asks you to compare your image to the too-yellow ones shown in the ring-around. If your print isn't too yellow, follow the *NO* arrow to the right; you will be asked to determine whether it is too cyan or too magenta, once again, by comparing it to the example shown in the ring-around.

If, by the time you have checked the print against the too-magenta examples, you still have not found a color that

resembles the one adversely affecting your print, you have two ways to go: either up the top *NO* arrow, to the box that tells you, *IF YOU GOT HERE FROM THE CIRCLED B YOUR PRINT IS OK*, or out the far right *NO* arrow to an encircled *C*. Don't take the upper route if your eyes tell you that there is an overall color cast present in your print that shouldn't be there. If you follow the *C* route, you will find yourself back in the decision boxes that ask whether the print is too red, too blue, or too green again. This time, though, be more careful and see whether one of these three additive primaries isn't your problem color. Just keep truckin' on through the decision boxes until you decide which of the six options offered is the one that comes closest to looking like your problem color. You probably won't find any *exact* match. But all you really have to do is find one of the problem colors that looks *similar* to the color cast in your print.

If you can't perform this task, there are two sad possibilities to consider:

Perhaps you weren't listening when I said not to try to check any of your prints unless they were *no more than 1/2 stop* from having the proper density. If you thought you would fake your way through this maze with a print outside of this density range, you have wasted your time. Go back to the top of the chart and follow all of the density instructions before you start through the color evaluations again. The other possibility is that you are color blind.

Let's say that you have compared your print to the ring-around and found that your No. 2 image is very close in density to the *perfect* print at the center of the ring-around. Your enlarger lens's largest opening is *f/2.8*, so you know that the No. 2 image was made at *f/4* with a 10-second exposure. You used no filters other than a heat-absorbing glass and a CP2B (or alternatively, a 301A and a Wratten 2E). You have compared your No. 2 image to the original transparency and to the examples of color-cast problems in the ring-around, and decided that your No. 2 image looks as

NEGATIVE-TO-POSITIVE RING-AROUND



+40 RED



+2 STOPS



+40 YELLOW



+20 RED



+1 STOP



+20 YELLOW



+10 RED



+1/2 STOP



+10 YELLOW



+40 GREEN



+20 GREEN



+10 GREEN



PERFECT



+10 MAGENTA



+20 MAGENTA



+40 MAGENTA



+10 BLUE



-1/2 STOP



+10 CYAN



+20 BLUE



-1 STOP



+20 CYAN



+40 BLUE



-2 STOPS



+40 CYAN

POSITIVE-TO-POSITIVE RING-AROUND



+40 YELLOW



+20 YELLOW



+2 STOPS



+1 STOP



+20 RED



+40 RED



+10 YELLOW



+½ STOP



+10 RED



+40 MAGENTA



+20 MAGENTA



+10 MAGENTA



PERFECT



+10 GREEN



+20 GREEN



+40 GREEN



+10 CYAN



-½ STOP



+10 BLUE



+20 BLUE



+20 CYAN



-1 STOP



+20 BLUE



+40 CYAN

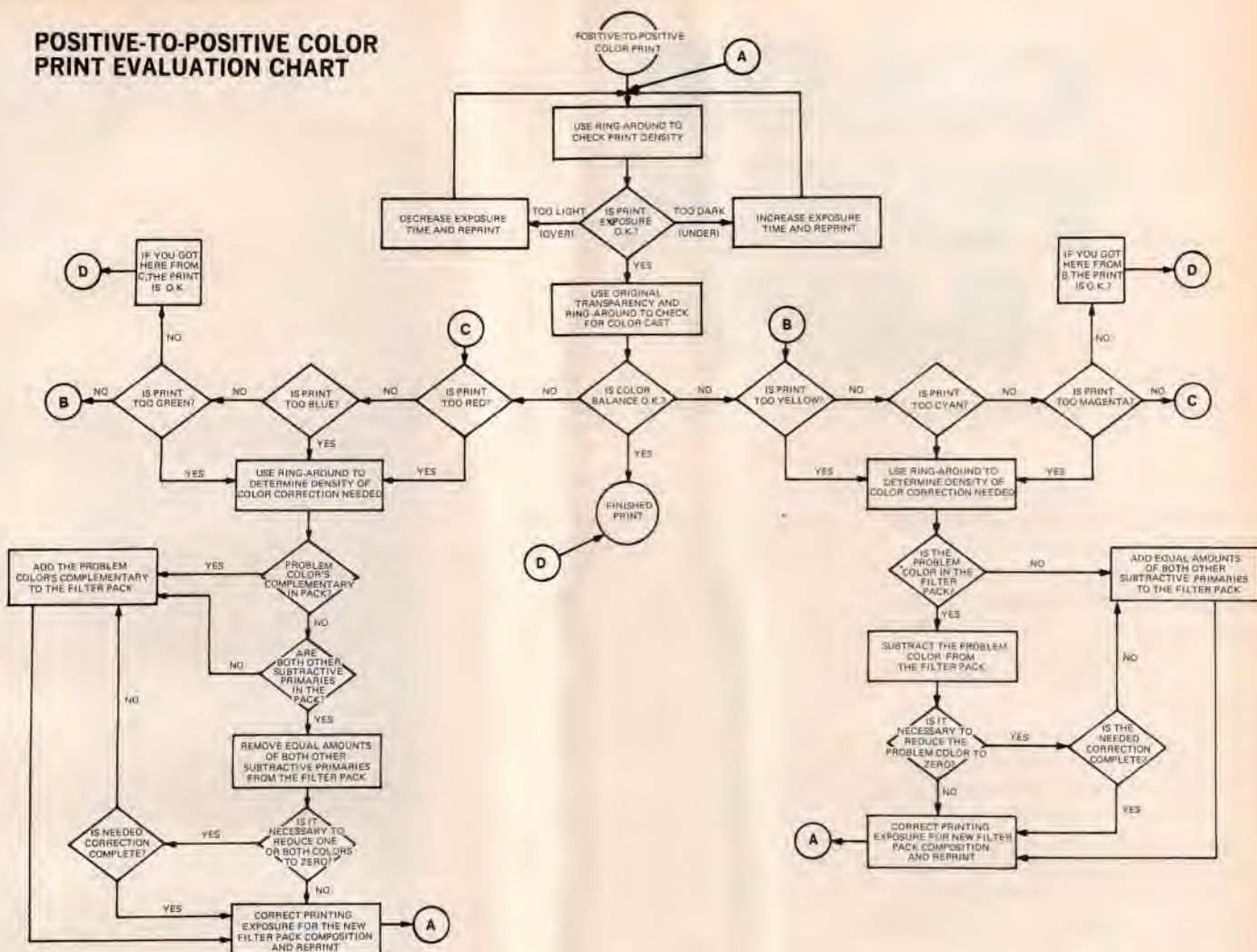


-2 STOPS



+40 BLUE

POSITIVE-TO-POSITIVE COLOR PRINT EVALUATION CHART



though it has the same kind of color cast as those in the ring-around that illustrate plus-magenta values. Follow the **YES** arrow from the **IS PRINT TOO MAGENTA?** decision box to the instruction box below it that tells you to **USE RING-AROUND TO DETERMINE DENSITY OF COLOR CORRECTION NEEDED**. To follow this instruction, simply compare your No. 2 image with +10, +20, and +40 MAGENTA illustrations to decide which one its overall magenta cast most closely resembles. Let's say that you find that your No. 2 image looks pretty much like the +40 MAGENTA one. Follow the arrow from the instruction box down into the next decision box, which asks you, **IS THE PROBLEM COLOR IN THE PACK?** You had no color filters in the pack, so your answer is no. Leaving the decision box by the **no** arrow brings you to an instruction box that tells you to **ADD EQUAL AMOUNTS OF BOTH OTHER SUBTRACTIVE PRIMARIES TO THE FILTER PACK**. To comply, simply add .40 cyan and .40 yellow to the filter

pack and move on to the next instruction box, which tells you to **CORRECT PRINTING EXPOSURE FOR THE NEW FILTER PACK COMPOSITION AND REPRINT**. To comply, refer to the Exposure Time Corrections table, where you find that adding a .40 cyan filter calls for a 90 percent increase in printing exposure and adding a .40 yellow filter calls for an additional 10 percent of exposure time. Now you know everything you need to know to reprint another four images with the color-corrected printing filter pack. Your new pack will still have the heat-absorbing glass and CP2B (or 301A and 2E), but now you will also include 40C + 40Y. Your new approximate printing exposure will be at f/4 with 100 percent more time than your original exposure, or 20 seconds instead of 10 seconds. Use the four exposures on the reprinted sheet to bracket the one that you determined from the approximate values shown in the Exposure Time Corrections table. Make all of your exposures at 20

seconds, but make No. 1 with an f/2.8 lens opening, No. 2 with f/4, No. 3 with f/5.6, and No. 4 with f/8. Process and dry the resulting test print and re-enter the evaluation chart at A to determine how good a job of correction you did. If your second set of test images is still not right, just run through the appropriate sections of the table again and make a third test. Keep on going until you do manage to make a perfect print.

You should note that you can also use the multiple image test procedure to bracket color changes as well as density changes. You may, for example, want to print a set of four test images, each one with .05 more yellow filtration than the last, to determine accurately the effect of small filtration changes. You can even combine filter and exposure variation both in the same set of four test images, but make sure to keep an accurate data sheet if you do this type of test-image making.

Let's look at another hypothetical printing situation. Suppose you had

continued on page 114

COLOR VERSUS B&W

An informal guide: When to use what

By KEN WERNER

Each time you drop a film cartridge into its chamber, you make your most fundamental photographic commitment. When the camera snaps shut, you've staked your chips on one of two radically different image-making mediums.

They're so different, in fact, that photographers seem instinctively (and often irresistibly) drawn toward one or the other. Even pros who shoot miles of each on assignments usually select only one type of film for their personal work.

But just how do we, pros and amateurs alike, go about choosing our favorite? Are there obstacles, even traps, that may deflect us from the right decision? Indeed, are some of us perhaps specializing in the *wrong* medium?

I think the answer to the last two questions is an emphatic "yes." Choosing wisely can be a tricky business. And just because we've had both options available for over four decades doesn't make the choice any easier. If anything, it's likely to make it harder. We're liable to think we know more than we do, become jaded, begin with answers rather than questions.

One problem is the glut of "information" available on the subject. Numerous articles, even books, have been devoted to it. Experts abound, all too eager to spill the dope on "when to use which film and why."

With so much in the way of "facts" floating around, it's difficult *not* to learn all about color and black-and-white quite early in our photographic careers. But is this something we can—or should—learn so fast?

I think not. If the choice were simply one of technique, then the faster techniques are mastered, the better. But *this* choice is one of taste and

temperament, not technique. The answers are personal—and can only reveal themselves over time.

Ready-made recipes will only steer you away from the experimentation that alone can supply the answer. Yet recipes and textbook answers exist to fill a need. And that need is the real obstacle to unraveling the mystery of which medium—or mixture of them—suits *you* best.

If you ask the typical raw beginner which type of film he prefers, chances are he'll have a pretty clear idea. He may not have the foggiest notion of what camera to buy, or what type of subjects he'd like to explore, but pop the magic question and you'll get decisive answers like, "I like color—black-and-white is old-fashioned" or "I like black-and-white—it's more artistic."

Why this rush to judgment? Are the answers really so simple? Most important, why is the need for quick commitment so commonplace?

I wish I knew the answer to the last one. Perhaps it's another symptom of the overspecialization that plagues our culture. Perhaps it's just that there are so many inherent variables in photography that we naturally seek to simplify our options whenever we can.

Or perhaps we actually make up our minds long before we start to take pictures. In today's world, we're bombarded with images every day of our lives, and every image, photographic or not, in some small way shapes our notions of what photographs can do. So current cultural stereotypes about the roles of black-and-white vis-a-vis color can easily become transformed into our very own.

Whatever the cause, most of us start off in photography with a sort of



Black-and-white provides balance in photograph above. In color, the intensely colored guard would have overwhelmed the drab mannequin. By keeping figures equal, black-and-white focuses attention on their relationship. Black-and-white may be more frightening than color, as in picture at far right. It's surely allied with the forces of night—the only time we see in black-and-white. Right, black-and-white denies us the stimulation of color, and can conjure up a world of deprivation in which images like this resonate strongly.



"One obvious danger of premature specialization is that it may funnel you... into the wrong medium. By "wrong" I simply mean the one that communicates your photographic gifts less effectively."

COLOR VERSUS B&W *continued*

sweetheart. And our affections can easily lead us to construct a rationale to explain and support our choice. The problem is that this very rationale inhibits us from ever seeing the issue with an open mind again!

This process is pernicious, because with any luck our early experiences with either medium will be exciting and fulfilling. Should we let *that* lock us into what may have been an arbitrary choice?

One obvious danger of premature specialization is that it may funnel you, and then freeze you, into the *wrong* medium. By "wrong" I simply mean the one that communicates *your* photographic gifts less effectively.

You've got a 50 percent chance of being on target just by accident, of course, and intuition ups the odds considerably. But there's still a sporting chance you'll enhance your photographic pleasure by giving the alternative medium a fair shake.

Who knows? You might find yourself loving both, chafing when constrained to only one. And if your allegiances survive intact, you're sure to return with a sharpened knowledge of what your favorite is all about.

So one of the urgings of this opus is simply "Git outa yer rut!" Start fiddling with whatever you're neglecting. Investigate! There's no need to thrust aside your favorite. Let the codeword be "ambidexterity"—at least for a while.

Perhaps you're wondering why I'm so fervent about all this. Quite frankly, it's because at various times I've fallen into most of the pitfalls I've described.

Over the years, as a free-lance photographer and photo magazine staffer, I've consumed more than my share of both color and black-and-white. But when it came to work I did for love rather than money, I invariably reached for Tri-X. Color was for clients or concepts that required it—black-and-white was for when I had something to say.

Then, awhile back, through a series of events too personal to go into here, I found myself temporarily *sans* darkroom

but with a little free time on my hands. Since I've never been very good at accumulating negatives for subsequent printing (if I don't print my "takes," I find myself taking less and less), I decided to fool around with some transparency film.

As the accompanying color illustrations attest, my fooling around soon graduated to a serious interest. I was taking pictures I never could have gotten in black-and-white, pictures in which color was the decisive element—the subject, if you will. (Incidentally, the foregoing should explain why there aren't any captions attached to the color images here—if what you see doesn't tell you why color was used, words are unlikely to save the day.)

In the midst of my color euphoria, I noticed something disturbing. I was taking less and less black-and-white, though I'd just built a shiny new black-and-white darkroom. In fact, I seemed to be developing something akin to a distaste for it. In my free time, I was only shooting Kodachrome. The tables had completely turned!

Needless to say, I was quite surprised by all this. Black-and-white had always been my baby. Now I was torn—delighted to add color to my arsenal, but most distressed at the apparent cost.

Yet I certainly wasn't going to *force* myself to shoot black-and-white. So as the dust on my Dektol cans grew thicker, I reveled in the joys of living color. And then one day I got the feeling I was missing something. Soon I felt an irresistible craving for Tri-X

Right now, in case you haven't already guessed, I'm trying to explore both film options with an open mind. I enjoy playing with each as I get the urge, and I'm beginning to suspect that equal fluency with both would be a worthy objective in its own right.

That suspicion is buttressed by the way the two media seem, at least to me, to *complement* each other. That is, each seems to take up where the other leaves off. And this peculiar and fortunate relationship seems firmly rooted in some

Is she surprised, frightened, or just posing (bottom)? Black-and-white keeps you guessing. In color, the smeared ice cream and girl's rosy cheeks would produce a playful and "cute" air. Girl, opposite, just cried for color.







"Black-and-white demands more of the imagination—of both photographer and viewer—and it's this, not some supposed 'abstraction,' that constitutes black-and-white's charm and power."

COLOR VERSUS B&W *continued*

elementary facts.

Film is really nothing more (or less!) than a *memory*. It stores "information"—data on a pattern of light that existed for at least one split-second. Memories, of course, can differ in ability, and that's exactly the difference between color and black-and-white.

Color's memory is far more powerful. It remembers not only light's energy, but also its "rhythm," its frequency, the quality our perceptual apparatus interprets as "color."

This whole extra dimension of memory is directed toward one paramount goal—to emulate the direct, instantaneous "seeing" of the eye. A color photograph is the closest we can come to nailing down the actual experience of sight.

So color film is uniquely suited to conveying immediate, sensory experience. First and foremost, it operates on the level of *perception*. It plugs in directly to the neurological circuitry that ultimately comprises our sense of sight.

This makes color imagery *sensual* in the most basic meaning of that term. Color's strength is that it can easily trigger (and, of course, exaggerate) instinctive visual reflexes.

Black-and-white imagery is quite different. It strips away a major component of normal seeing. Compared to a color image, a black-and-white photo is alien, strange, an object demanding interpretation, not reflex. It requires the intervention of the *intellect* to render it comprehensible.

It's been a basic presumption of "civilization" that the intellect is inherently superior to the senses. But is that really so? Frankly, I hope not, but in any case I think such distinctions go a long way toward explaining why black-and-white has traditionally been accorded higher "artistic" status than color.

And conversely, I think color's immediacy and sensuousness explain its dominance in both advertising photography and among the snapshooting public.

One of the oddest things about all this is that black-and-white's very insensitivities are its greatest creative asset. Black-and-white's memory has big gaps, and it's the task and pleasure of black-and-white users to fill them. Fortunately, the skilled black-and-white photographer, particularly in his role as printer, has considerable "discretion" in this regard (especially when compared to his fellow printers using color).

"Tone," the black-and-white image-maker's stock-in-trade, is quite arbitrary, simply because we don't normally perceive the world as tone. So we know less about what it should be. And what we don't know, the black-and-white printer is free to invent. By forgetting color and remembering only brightness (i.e., tone), black-and-white both falsifies reality and permits us to infuse it with our own personal stamp.

I'm reminded of a friend's pithy motto: "If the camera didn't lie, I wouldn't use it." By that he means not that he uses his camera for deceit, but simply that he believes photography's subtle "misrepresentations" are its singular strength. Not surprisingly, he's strictly a black-and-white man.

Black-and-white doesn't pretend to duplicate our vision—it offers something else instead. And that something else is really another *language* of seeing.

This new language—tone—is a fascinating blend of the real and the unreal. As a result, it's almost the birthright of a black-and-white image to inhabit that magical—and uniquely photographic—arena where truth and illusion coincide.

You may have noticed that so far I've assiduously avoided the two basic catchwords that litter most discussions of color versus black-and-white. I refer of course to "literal" (always applied to color) and "abstract" (always applied to black-and-white). However, they must be dealt with, if only because they've spawned enough red herrings to thoroughly muddy the waters and give the whole question a fishy smell.

First, all photographs are inevitably
(continued on page 113)

In color, this "black hand," bottom, would have been just as black, but the sickly green of the wall on which I found it would have been most distressing. Black-and-white emphasizes my real subjects, namely composition and tonal detail. Vivid colors, opposite, make all the difference between ordinary pictures and striking ones.



Market Value

Revealing interviews with seven picture editors

By BARRIE SAMUELS

Why take pictures?

You? Photographers? Anyone?

For pleasure. Profit. The pleasure of profit. The profit of pleasure. Other reasons, if they were charted, would probably fall under either the pleasure or profit motivation. Reasons like telling a story, practicing an art (or a science), documentation, posterity, fame, fortune, glamor, creative pride, and on and on. Everyone will use different words, most will see different pictures . . . but then what?

The fairly proficient photographer eventually will be confronted with the choice of whether or not to try and turn this pleasure into profit. Not just selling a picture here and there, but going into the professional commercial marketplace that takes relentless hard work, focused effort, energy, commitment, time, luck, money, and guts.

The moment you begin taking pictures for someone else, the compromises start—compromises you may or may not agree with. Compromises in your personal artistry. Compromises that mean there's someone else to please, someone else who must approve. This world of photography is very much part of the world of business.

There are many people who buy and use photography commercially. Every place that you see a commercial photograph—ads, magazines, packages, cards (post, greeting)—someone had to arrange for its use, perhaps even its creation for that purpose.

Some people who edit (select for use) pictures are called picture editors. Those interviewed here are at different levels of picture editing, different points of their careers, and are quite different from each other.

The picture editor is usually the first contact a "selling" photographer (or rep) will have with a potential-market magazine; if not, it may be an art director or art coordinator. The photographer can get his or her work to a picture editor in one of three ways: personal appointment and interview, portfolio

"I love to see them but feel terribly discouraging because there are so few people we're going to use ... so you feel rather sad for all the people who come to you."

MAGGIE BERKVIST
New York Times



drop-off and pickup with no personal contact, or just by mailing the pictures (out-of-towners mostly). This is purely a matter of time, timing, and style.

Some picture editors wouldn't think of not meeting the personality that created the portfolio; others feel an interview unnecessary and time-consuming, and that they can tell just as well by the photographs. Both are valid viewpoints.

Everybody works differently—every picture editor and every photographer.

Because they have to deal with each other, each, in turn, should at least try to understand the context of the other, if not respect it. This is probably one of the world's widest communications gaps. Trouble is, it's a buyer's market. So seller, beware.

There are good picture editors, bad picture editors, good photographers, bad photographers, and all kinds of combinations. The relationship between a picture editor and a photographer is a

35-MM PHOTOGRAPHY

double-sided, very flippable coin. There is no rule book, only the experience that each assimilates from a world of subjective judgment and people working with people working for people.

Some publications give out lots of assignments, some don't. Assignments are more expensive than the alternative of using stock photos—from a stock house, a library or archive, even from a photographer's own stock. (A stock photo is one that's already shot; a stock

couldn't care less about your cat pictures. Presentation is the first controllable step. Skill implied, you'll also need lotsa luck, timing, chemistry, quick-on-your-feet flexibility, taste, and an anti-rejection shield.

Merrill Roseman, Art Coordinator, *Psychology Today* magazine. Color photography is used mainly for the cover and portrait of a person-of-the-month interview, although there is ample other color and b&w illustration.

TOM VANDERSCHMIDT **Sports Illustrated**



"The old magazines were edited by people who were concerned with photography. Now you satisfy an editor who's interested really in writing. It's that way in almost all the magazines now."

house or picture agency is a library of pictures whose use is rented for a specific purpose.)

Some picture editors deal exclusively with photographs, while others are responsible for illustration—be it a drawing, a cartoon, a painting, or a photograph. The photographer who really wants to try for the money must present himself and his work in the context of each person and each magazine he visits. A sports magazine

Roseman's job is basically that of a picture researcher—she has to find, to research the picture(s), whether photo or artwork, to go with articles. This includes going to primary sources such as stock houses (Black Star, Magnum, AP, U.P.I., etc.), but can also include going to an antique store or library to hunt up pictures she thinks will fit the text. Research covers what actually appears in the magazine and material for illustration that is not

seen—reference material. Sometimes photographs are used only as the basis for an artist's rendering; these illustrator's references are sources of accuracy.

When Roseman is "getting stock" or researching at a stock house, she will do a first edit of the pictures while she is there. She looks for reproduction quality and appropriateness before bringing them back to her boss, Art Director Neil Shakery. The selection is then refined—she suggests, they discuss, he decides. Shakery is on top of the magazine's art use, and has the final say in most, if not all, of it.

If, for example, Shakery comes to her and says something like, "We're doing a thing on busing; we need an accompanying photo," she starts thinking: "It's a news subject, so logically, who would have news photos?" U.P.I., the papers, even the Boston papers, photojournalists she might know or know of who've done anything on busing, etc. Not being able to recreate the scene, it's her job to know where to call for existing pictures. "It's a problem to find something that hasn't been seen all over the place, that is unique, and looks as if *PT* has its own look at the situation."

She also uses source books of illustrations in the public domain. When photography is the best way to illustrate a story, she refers to a file of photographers, maintained geographically. For the magazine's monthly interview portrait, photographers are chosen according to proximity of subject.

Photographers can leave their books or come in through an appointment scheduled by Roseman to see Shakery. Looking at the books herself is also a way of becoming familiar with the stock work of photographers. To help her remember, she may ask for some material to keep—tearsheets or a print.

"Working for Neil," she says, "is like watching someone exercise good taste; it's an education." She's learning about illustration, which she knew less about than photography. When she and Shakery agree, she feels it's a compliment to both their tastes; when they don't, "We're different, but that's only natural," she says.

I asked Roseman how photographers are rejected, how does she tell them no? "I think Neil is very helpful here. He tries to assess each book and discuss whether it's appropriate for *PT*. . . whether it's strong, effective, or not. It's a sensitive area, and you try to be as

helpful as you can. . . . It's disappointed me many times to see photographers with wonderful books and then have to tell them that *PT*'s an editorial book first, not a showcase for photographs. *PT* can't take a portfolio and exhibit it; we must illustrate the material.

"If it's not for this magazine, it doesn't mean that it's not for this world . . . but if you can get the best, why not have the best? . . . At the risk of sounding terribly pompous, the magazine has a set of standards."

Roseman looks for quality and professionalism in a photograph, tries to find out how well the photographer works on an assignment based on other people's ideas. For her magazine, that's what they would have to do—fulfill someone else's ideas in the execution of the photograph. "Some setups call for a pro who can prop it right and solve problems." It has to look convincing, be cohesive. She must think ahead to reproduction . . . what will happen if the photograph is enlarged, reduced, etc. She also makes sure that credits are given to artists, sees stock-house reps, keeps track of art while it's in-house, adheres to schedules, knows what reproduction rights the magazine has to what artwork, handles contracts with the artists, and sees to reimbursement. She also takes an occasional picture; some of her work appeared in recent issues.

Roseman has been with *PT* for about a year—starting when it came East (it formerly was California based). Jobs were hard to find, so the combination of her graduate degree in counseling psychology plus her interest in art and photography made working for this magazine almost a natural. She started out in promotion, then her present job came up. It seemed more challenging, so she took it. "I think I exercise good assessment of ability and techniques . . . that's in general. When it comes to a purpose, it depends on the purpose. I try to keep aware of what's happening and who's doing what . . . I want to be as much involved in what goes on as possible. I love photography. I love seeing it work in the magazine, seeing it used. It's a treat to go on shoots and see how photographers work."

Roseman goes to school "all the time for photography," shoots all the time—her own time. "Love it," she says with a big grin.

Peggy Sealfon, Picture Editor, *Camera 35* magazine. Since *Camera 35*

is a photography magazine and does not cover specific news events, it is "more an exploration of photography with a specific theme." Editors rarely assign work, rarely have to seek out specific photographs to illustrate a story. Occasionally, Sealfon may go to a stock house for a cover shot.

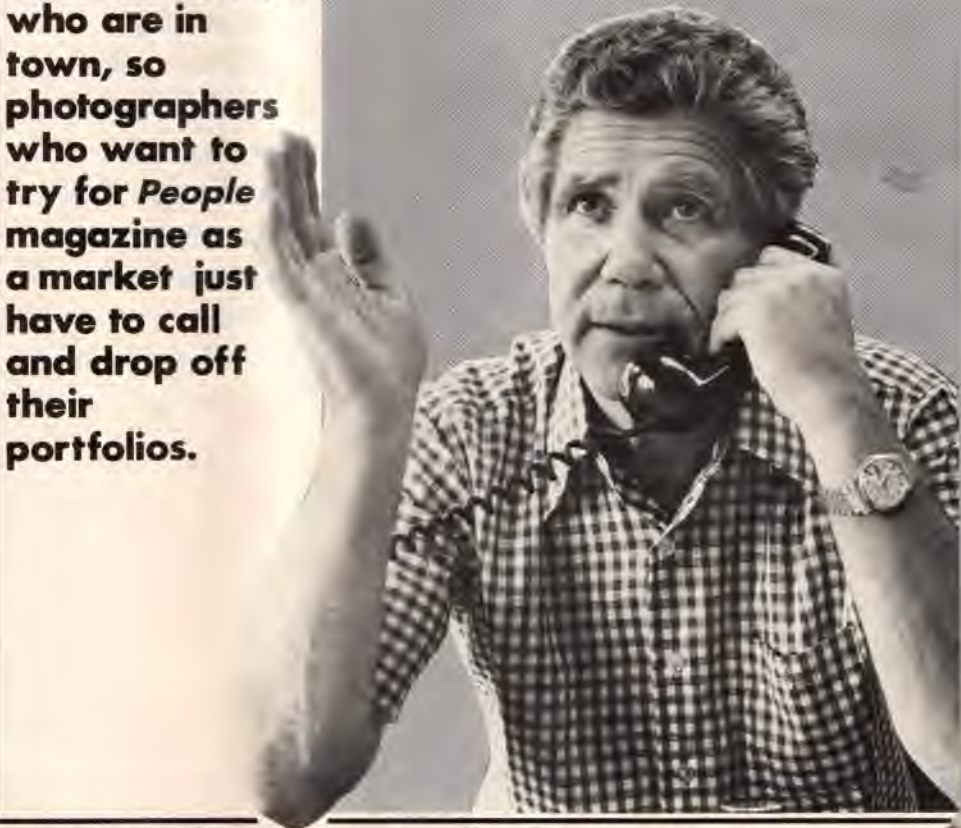
Being the picture editor entails dealing with photographers and making selections from their portfolios as well as fulfilling a role that is really that of an

photography. "For example," she explains, "some photographers will come in and be excited about their work. They'll talk about it. They're very explicit about every little detail. You can see them actually approaching their subjects, and this gives you an insight as to how the portfolio evolved."

The photographer, say, of a portfolio of delicate woodsy pictures may be passive and quiet. "You get a feeling from them. Sometimes it's totally

Dominis doesn't see photographers anymore—unless they're recommended, known, or his out-of-towners who are in town, so photographers who want to try for *People* magazine as a market just have to call and drop off their portfolios.

JOHN DOMINIS People



observer of photography, of the things that are happening, ideas, their interaction, new techniques, and so forth.

"They [photographers] come in, we sit down, and talk about what photography they've been doing." Sometimes they give a running commentary as she goes through their work, sometimes they just sit there quietly. She has no preference. She gets a feeling of what they're about this way, and of their approach to

misleading, it's reversed. Somehow, though, it all falls into place—if you do it enough. Experience helps a lot."

Sometimes portfolios are spread out on the floor, or on the lightbox, or shown in the projection room—depending on the material. She usually goes through a portfolio once to get a feel for it, then once again slowly. They talk about what the photographer felt while taking the pictures, whether or not what was accomplished was intended. The time

spent with each photographer averages 20 to 30 minutes, has gone up to 2 hours, but that's "very rare." This is a fair amount of time, she feels, to give the photographer a real chance.

If she's interested in the work, she'll either make a selection at that point, or ask the photographer to come back. They discuss how it should be handled, whether the photographer will write the text or have someone do an interview (often it's Sealton). Acceptance

return when their photography has "matured and developed."

Her advice also depends on what the photographers have been doing, the kind of portfolio they've been working on. Sometimes she tries to give them direction or to suggest another approach without imposing her ideas on them. If a photographer, for example, has been shooting the block he lives on, and is doing it just from the street, she might suggest that he go into the homes, get

to one another . . . pages and series and things that flow together. Is the approach unique? . . . Printing really affects me; the paper, etc. A nice deep richly textured print really grabs me. The images and composition, light, subject, approach, angle. . . .

"It's hard to generalize; each photographer is so individual—totally different personalities, totally different visions. You can't really say that 'this is the way it is' because it never really is that way. . . . There's never really a rejection, always an encouragement. Anyone who's seriously presenting photography wants to find his or her own unique vision . . . and I always want to be very helpful, never to jump out and reject what they've done."

Because Sealton doesn't have the time to see everyone, sometimes she will ask a photographer to leave his book. This is preferable to her because she can "peruse" (one of her favorite words) it at her own most-receptive convenience. Sometimes a personal appointment with a photographer will suffer because of other pressures that may affect her appraisal of the work.

Portfolios are generally held a day or two. But, she warns, they also may be held up to a year (!) if the possibility of publication is pretty good. The reason for this, she explains, is to have the work on hand—just in case they schedule it. "Patience is a virtue," she says, as well as "being in the right place at the right time." To keep work for a year is admittedly unfair to the photographer, but this in-file, out-of-circulation captivity may be the only way to get it published in *C-35*. "Photo magazines are a different breed—a different vehicle for photographers and I guess it's one of the few places that really deals with the photographs as photographs rather than as illustrations for an article." The photographer, she justifies, gets exposure as a photographer rather than as a bread-and-butter practitioner. The photography she sees "is often what they've done off assignment and is much more personal."

The final selection is made by a group—Editor-in-Chief Bill Clark, Managing Editor Don Hughes, and Sealton—in an editorial meeting. Even so, a decision is never final until the pictures are printed in the book; there's always the possibility of a last-minute change. (Last-minute hope for the deep-sixed portfolio!)

She sees 45 to 50 portfolios a month, maybe slightly more black-and-white than color, and the magazine buys

Berni Schoenfield MD

"I like to discuss stories with photographers, the work they're doing... today's young photographers have a kind of commitment to photography that is much more personal, much more related to the realities of today's life than ever before."

sometimes depends on what there already is in the files.

If Sealton isn't interested, she often says plainly that the work is not suitable material for *C-35*. The portfolios in this category generally belong to "a somewhat beginner" who's learning to go around (to the picture editors, etc.). "I try to explain that they're not quite ready for publication, that they haven't found their niche in photography yet." She tries to offer them the opportunity to

closer to the residents. "I don't ever like to direct a photographer specifically into a niche. That's something each photographer has to find for himself/herself." She tries to motivate them to keep photographing. Sometimes when they come back in the suggested six months, there have been startling changes in their work.

What does she look for in a photograph for *C-35*? "You have to deal with the content; the images are related

one-time North American rights. Rates vary depending on the portfolio—the size, who writes the text, the number of printed pages, etc., but she tries not to deal with the financial end of things. Sealfon's degree in art history exposed her to painting and drawing. But, she speculates, her involvement in photography may be her reaction against the people who imposed their way of seeing on her. She was a free-lance photographer before arriving at *Camera 35* four years ago. Starting out as an editorial assistant, she took on more and more responsibility. Loving the field, it all fell into place. Her photography now is for herself, very private, "which is a nice kind of way to do photography."

"I find it very exciting to be at this end. . . . I know what it's like (to be on the other side). It's cold and it's tiring and you get hungry."

At the end of the interview, I asked for a kind of summarizing "message," something succinct, profound, and brief to induce instant understanding of the picture editor's position, etc. "Ahhhh." Sigh. "That's a toughie. . . . We look for portfolios that have a cohesiveness, a theme, rather than individual images thrown together that don't relate. We do individuals only for the 'Readers' Gallery.' The best way to know what we're all about is to look at the last five or six issues. Other than that, I think it helps photographers in terms of their own development to see anything they can lay their hands on. . . . A lot of times a photographer thinks something is unique, but I've seen it 12,000 times. You have to be aware."

[As we were about to go to press, we learned that Peggy Sealfon had resigned her post as picture editor of *Camera 35*. We have no information as to her replacement.—Ed.]

Maggie Berkvist, Picture Editor, *Sunday Book Review* and *Sunday Magazine* of the *New York Times*. The simplicity of editing pictures solely for the *Book Review* is now history. These days, Berkvist spends half her time with each of the two very different sections. They function differently and don't dovetail at all.

Picture editing for the *Book Review* involves reading reviews and suggesting illustration—a nice combination of art, photography, and archival material. Because there's not much money allotted or spent for this section, there are practically no assignments. Calling in

a photographer and selecting from a set of contacts on a particular subject, however, is pretty sure picture editing. Selection is a result of conferring with the editor and art director. From there, it goes into layout.

The art director of the *Sunday Magazine* has a great deal to say about assignments. There is also the head of the picture desk, one more full-time picture person, Berkvist, and another half-timer who splits her time with the

scrapbooks, other publications, and so forth. Assignment is a last resort.

In the good old days, Berkvist would see portfolios whenever someone called to show one. Out of that some good people were discovered. Nowadays, she generally puts off photographers until she can see them. "Unfortunately, it's hard to find the time and the best thing to do is to ask someone to leave the portfolio overnight. . . . Once you become aware of photographers that

McDarragh believes that there's a tremendous free-lance market for good photojournalism. When a photographer telephones for an appointment to show his portfolio, McDarragh will talk to him.



travel section. On the *Magazine*, Berkvist may pick up a story to be illustrated. It may be urgent, yet still may be shuffled around and put off quite a bit. If she does get a story, it's generally hers from the time she reads it. Should its illustration be artwork or photography? If it's artwork, it goes to the art department; they assign the artists. If it's photography, it's discussed with the art director. Sources can be the subject, the author, the agent,

are good or have a kind of stock material you need, you keep a record of it. They send lists of the things they have."

The average portfolios brought to the *Book Review* per week is about two; the *Magazine* gets heavier traffic because that's where the assignments are—with the art director.

When a portfolio is dropped off, the pickup is followed by a phone chat. "I love to see them but feel terribly discouraging because there are so few

people we're going to use . . . so you feel rather sad for all the people who come to you." There's no immediate decision either way. She makes note of what they have, and will call them if the need arises. She may also suggest use of this material to the *Magazine* art director.

In a picture, she looks for "something that turns me on. . . . I'm afraid my reaction to pictures is really emotional . . . be it people or landscapes. I

FRED McDARRAH Village Voice



suppose there are certain technical aspects that subconsciously influence me. Either it's a peaceful scene that makes me feel . . . that I want to be there or a grim scene that upsets me or a person that communicates something to me . . . if the photographer's done it right, I get a response to it."

Berkvist started on the *Book Review* about 20 years ago as a secretary, not her favorite kind of work. She was interested in photography as a hobby; as

time passed, she learned more and more about *Book Review* illustrations and where they went to get them (use of photography was rare). She looked longingly at the picture desk until one day she got her chance at it. One of the two people on the desk went on maternity leave. Berkvist thought she'd be back, management didn't; they were right, and she was on the desk. She had a good eye for photography, but continued her on-the-job learning of research and sources. "It's really being in the right place at the right time."

Tom Vanderschmidt, Associate Director of Photography, *Sports Illustrated*. This weekly is practically all sports-event photography done on assignment.

Vanderschmidt gets right into it: "On a magazine like *SI*, you've got to sit down and decide what photographers get assignments for that week, get the pictures in, edit them, show the best to the managing editor and art director. Part of that is which photographer is the best for that story. That comes out of knowledge and the kind of people who are available to you. For *SI*, it's any photographer in the world.

"Part of being a good picture editor," he continues, "is knowing a lot of photographers and knowing what they can do. But that's only a small part . . . you have to have an art background to know why something is good—colors, shapes, things like that. You have to understand technique and equipment. Having a sense of stories is also such an essential part of what it's about . . . magazines are written and edited by writers. They're not picture people, they don't understand pictures . . . more and more a serious problem. . . . The old magazines were edited by people who were concerned with photography. Now you satisfy an editor who's interested really in writing. It's that way in almost all the magazines now.

"Looking at a picture is an automatic thing—when you've been around long enough, you just say it's good or bad. It's hard to put into words. Exposure, composition, obviously have little to do with whether it's a startling news photo. We look for a remarkable photograph, and may forget about who it's of. We're concerned about the best possible pictures.

"The most important thing a picture editor has to do is to know what a photographer can do. It becomes difficult because more photographers think that they can do anything. They don't like to hear that there are things

they're not good at. A picture editor has to decide who's really going to be the best at this—especially when you've got the money. You've also got to think about the staff people.

"Photographers must realize that they're in competition with the best sports photographers in the world. One of the problems is that the magazine is becoming more news-sports oriented. . . . We get stuck a lot with people who take a 50-mm lens to a baseball game. We want the 800-mm type. This is really a long-lens business—to see the things you don't see on TV or from the stands.

Any photographer can call, then see someone—but the stuff really has to be awfully good, Vanderschmidt, however, prefers drop-offs—to be kept for a day or two. If the work is good, he'll see or talk to the photographer. If the work is ordinary, nothing really is said.

When a photographer is given an assignment, he's told something like: go out and cover the Olympic Trials; talk to the writer. Then it's up to him—he goes out on the event while Vanderschmidt sits in the office. He has to decide what the story is, what the people look like. It's not like advertising where "the art director presses the button." If the photographer thinks someone is ugly, he photographs them that way. If beautiful, then beautiful. He determines that—the same way that a writer does. A good editorial story is a combination of the photographs and the story—and they're done separately. Each will see it in a different way. The managing editor decides how it all will go; he decides the combination of the best story and the best pictures. *SI*, naturally, wants the best coverage for any event that it can get. Their photographers know what to use to get the best possible pictures. In auto racing, for instance, you have to know where the low angles can be shot from. An auto is more exciting from the low angle; it makes it look as though it's moving, not just sitting there. The picture editor never tells a photographer what to do, but he might tell where the low angles at the track are.

Vanderschmidt feels that the psychology of many photographers is that they're insecure, dependent on approval. They want parents to take care of them—which is what picture editors are for. The whole thing is based on approval: Why was this accepted? Will I be loved (by the picture editors)?

To practice this picture-editor psychology, an art background is recommended. You learn about color

and composition. Photography is part machinery. If you learn, it will be in art school. Otherwise a meter gives the light reading. Anyone can buy a camera; the rest is in your head—and that's what makes the difference. The best training job is on a small newspaper where you do everything every day.

Vanderschmidt's art background comes from The Slade in London and Cooper Union in New York. He was a painter for a few years, but couldn't even afford coffee during that time, he says, so here he is. Working as a copy boy for *Time* (in essence, a small newspaper) paid for Cooper Union. In 1960, he graduated to the art department. A choice came up of moving on to *Life* or *SI*; *SI* seemed more exciting and interesting in 1960, so . . . *SI*.

Very few portfolios are brought up to *SI*—maybe two or three a week. "I don't understand why that is . . . considering that half of America has three Nikons around their necks. There's got to be someone out there . . . We're still working with sports photographers who've been with us 10 or 15 years," Vanderschmidt says.

Fred McDarrah, Picture Editor, *The Village Voice* ("The Weekly Newspaper of New York").

McDarrah has a lot to say about the position and situation of newspaper picture editors, which is why he granted this interview. Although he believes that "That's all anything in life is worth, 25 words or less," we'll give him a bit more space here to soap-box his point of view.

Being a picture editor on a newspaper involves three things: assigning photographers; selecting pictures; and, in a way, acting as an administrator for the flow of material, making arrangements for "access," etc. (Access is being in the right place at the right time with the right camera and the right lens, and is something you can't always do.)

Picture editors don't have as much influence on newspapers as people think they do. To be very honest, the role is one of a subdued nature. The final selection is really made by the managing editor or the art director. If there is a picture editor, chances are he won't appear on the masthead (listing of editorial credits as at the beginning of this magazine) of even a major paper—if they believe enough in crediting even to have a masthead. A look at your favorite newspaper might prove interesting. It is

through no fault of the picture editor that his role has been diminished. As a consequence of that, his part in the selection process is probably very small.

On *The Voice* (which has a masthead and gives lots of credits), the selection of the story dictates the type of photograph to be taken for the piece. McDarrah has a say in the kind of stories he thinks suitable and useful. The selection process also includes art directors, graphic arts designers, senior

photographer who is a picture editor has an advantage—understanding access, speed, equipment, mistakes, problems, understanding the psychology of the photographer. In photojournalism, you just can't block out what a picture will look like beforehand; you can't preconceive it the way you can a studio shot.

As a result of preconceiving pictures, we are left with picture clichés. Sometimes, he says, the clichés are

"I try to keep aware of what's happening and who's doing what. . . . I want to be as much involved in what goes on as possible. I love photography."

MERRILL ROSEMAN Psychology Today



and managing editors. Assignments are issued by the picture editor in connection with anyone who elects to make a suggestion. There is no rigid procedure. It has to do with which photographers are available, being in the right place at the right time, etc. Starting out 18 years ago as a staff photographer for the paper, and still being a photographer, he may even elect to shoot the assignment himself.

He feels that a working press

successful and work well. *But* it takes a little bit of daring and individuality on the part of a picture editor to select the photograph that is not a cliché. If the cliché happens to be a wire service photo, it is compounded and propagated that many more times. That's why we see the same photograph on front pages across the country (and on other pages, too), a McDarrah pet peeve.

Most papers throughout the country subscribe to the wire services. The wires

35-MM PHOTOGRAPHY

send out the same photographs to every subscriber. If the President, for example, has a one-hour shooting session, why do the same pictures appear in all the papers? Thousands of pictures are taken, so why only one picture?, McDarrah asks.

Most papers have their own photographers, but choose to use the wire photos anyway. To McDarrah, it's unfair to deprive your own paper of original photography . . . to use what

photographers. If a picture editor is considered management and if he shows no respect for his photographers, then the results will show in the paper. The picture editor may not have the final say in the selection, but he is a catalyst in bringing together the photograph, the photographer, the situation, the story, etc., to the managing editor/art director, and eventually the consumer.

A good picture editor is somebody who understands photography . . . who

photojournalism. When a photographer telephones for an appointment to show his portfolio, McDarrah will talk to him. This phone conversation determines how it will be handled. If the photographer is experienced, if he's worked for an underground paper, for example, McDarrah will see him. If it's someone he doesn't know, someone who's unpublished, in a junior category or if the person calls himself a photographer, but is really a transient—someone passing through looking for bucks, unemployed, etc., McDarrah will ask them to leave the portfolio for a few hours.

What about rejection? Recently, he says, he's tried to be more frank. You don't serve the photographer by encouraging him if he doesn't deserve it. He might say, thank you for showing your work, we can't use it now. Or, I can't give you an assignment as the work isn't photojournalism. "I am sensitive about their feelings because I am a photographer. You're dealing with people's egos (and) have to be very careful."

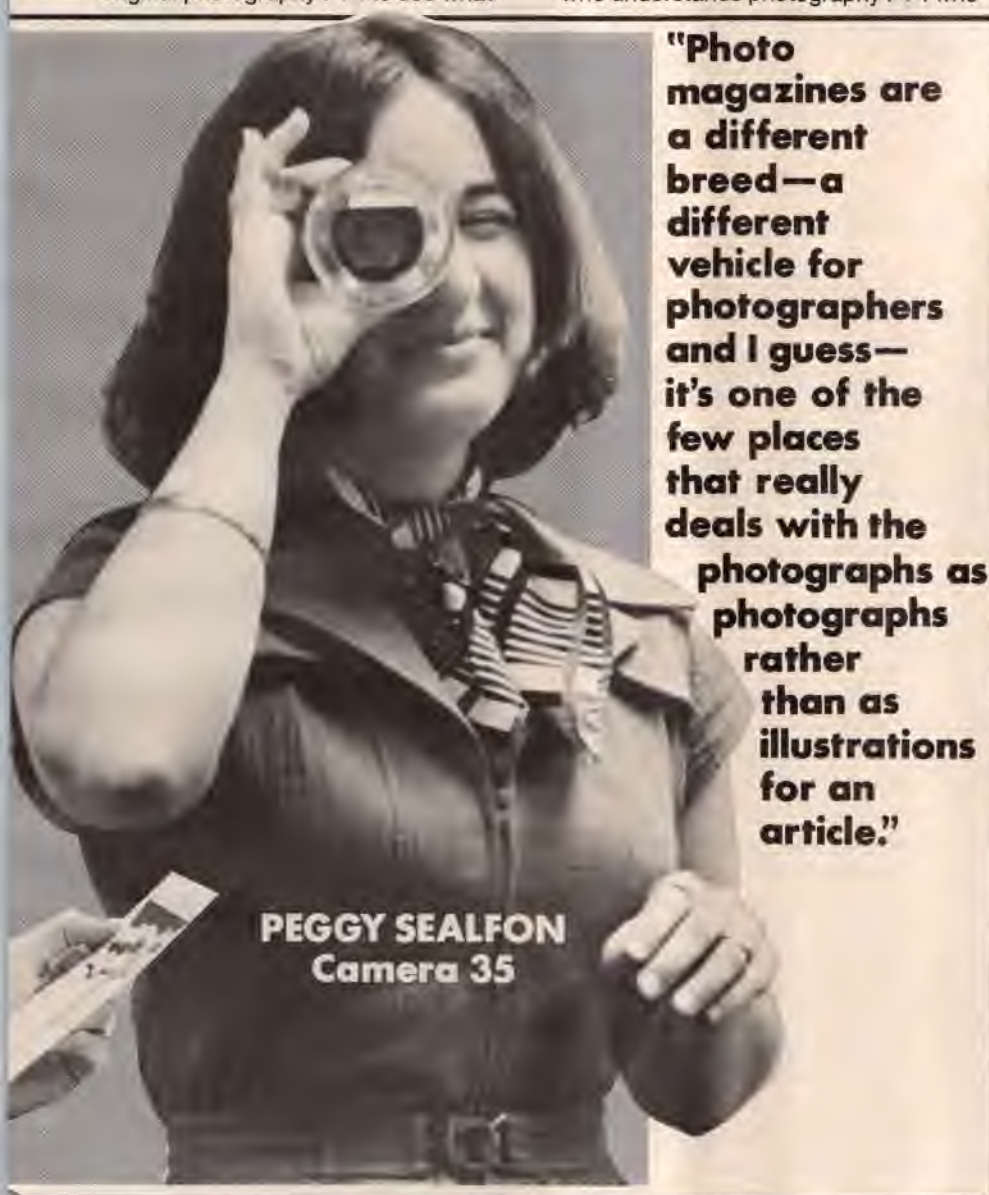
He believes, as a picture editor, "that photographers should be king—should have some say about how the pictures are used. But, that's just not the way it is. . . ."

As Fred McDarrah learns and is influenced by what he reads, he would like his soap-boxing perhaps in turn to influence others. What he has to say about picture editing is very serious to him. He thinks that it's very important for more than one point of view to see the light of day. "There are a lot of great photographs being taken that may never be seen." Maybe that's why, in 25 words or less.

John Dominis, Picture Editor, *People* magazine. Dominis doesn't see photographers anymore—unless they're recommended, known, or his own out-of-towners who are in town, so photographers who want to try for *People* magazine as a market just have to call and drop off their portfolios. He goes through them within a day, writes a personal note, and tapes it onto the portfolio. If they come in, he says, he gets their whole life story. It doesn't take too long to tell whether they can shoot pictures.

The picture department has a small staff and likes it that way. It's more intimate and Dominis has more of a hand in the production of the magazine. There used to be 25 people in the *Life* picture department to produce the same

continued on page 110



PEGGY SEALTON
Camera 35

"Photo magazines are a different breed—a different vehicle for photographers and I guess—it's one of the few places that really deals with the photographs as photographs rather than as illustrations for an article."

amounts to handouts. All this has to do with picture editing and the fear of other editors who refuse to be *real* editors, with their own point of view.

Picture editing and the selection process and working press photographers are intertwined and inseparable. The success, McDarrah feels, of any picture department depends on the enthusiasm and spirit of its photographers, and the way management views those

takes his own pictures . . . journalistic judgment should come before artistic judgment. He doesn't consider photography art, he considers it photojournalism and it has to tell a story. If it happens to be artistic, that's fine. But even a bad picture can serve journalism properly. (Magazines are different—they are design; they are type selectivity and imagery, not involved in journalism.)

McDarrah believes that there's a tremendous free-lance market for good

THE MINIMAL ZONE SYSTEM

By DAVID VESTAL

The purpose of this article is to trim down to its essentials the zone system of photographic control by exposure and development, so you can use it with 35-mm and roll film without being slowed down unnecessarily.

It is a skeletal version, extracted more or less intact from the full, elaborate form that is so useful to one-shot-per-sheet large-format photographers, and so hard to adapt to multiple-shot rolls.

Ansel Adams devised the zone system back in the 1940s. He didn't need it to make good black-and-white photographs, as his earlier work shows. It was intended as a teaching tool—a quantitative description of how film, developer, and printing paper behave in response to light, put in visual, tonal terms.

(People often forget that the zone system is descriptive, not prescriptive; so remember that it is something to use, not something to obey.)

With Ansel there to show people what happened, they got it quickly and easily. Good exposure-and-development technique had become simple for any intelligent beginner.

But when the zone system is written down in words and Roman numerals, it doesn't seem so simple. The system is based on dividing the print tones from black (zone 0, zero) through middle gray (zone V) to paper white (zone IX), and correlating these with the relative luminances ("measurable brightnesses") of dark to bright parts of the subjects being photographed; and translating it all to one-stop increments of exposure in the negative, and the densities these varying amounts of exposure produce. Each step of the

zone-system gray scale represents twice as much film exposure as the next thinner ("darker") one, and half as much film exposure as the next denser ("lighter") one.

There are thus four conceptual sets of ten corresponding values each—subject brightness scale, film exposure scale, film density scale, print gray scale—all of which must be thought of together. To keep all 40 balls in the air at once is difficult literary juggling, and hard for readers to follow.

That is probably why written versions of the zone system have not, so far, succeeded as well as personal teaching by visual demonstration. Each concept is simple, but the words for them are not. The facts all come together as one whole, but the explanations must be strung out word by word, and they run long. It's easy to forget the beginning before you reach the end of a thought.

For sheet-film photographers who can process each negative separately, there is nevertheless an advantage to learning the pure, strict zone system in its complexity—including just how much development to add when the subject has low contrast (as measured with the light meter), and how much development to subtract for high-contrast subjects, to fit both neatly onto the same procrustean "normal-contrast" grade of printing paper. (Procrustes was an ancient Greek motel manager who was neurotic about how his guests fitted his bed. If they were too long for it, he lopped them off to fit; if they were too short, he stretched them to fit. This is exactly what strict one-shot-at-a-time zone-system film development does; the paper is the bed, the negative is the guest, and the





E.I. 1,000, Zone 0



E.I. 500, Zone 0



E.I. 250, Zone 1



E.I. 125, Zone 2



E.I. 64, Zone 3



E.I. 32, Zone 4



"True" film speed, E.I. 16,
Zone 5 (DN 35)



E.I. 8, Zone 6



E.I. 4, Zone 7



E.I. 2, Zone 8



E.I. 1, Zone 9



E.I. 0.5, Zone 10

Exposure series, Santa Fe, N.M., Panatomic-X, E.I. 2-250



Metering at E.I. 16, *Dark bushes*, 16.5: indicated, $\frac{1}{2}$ at f/14—zone 3, $\frac{1}{2}$ at f/14, *Shade on near side of tree trunk*, 18.5: indicated, zone 5, $\frac{1}{2}$ at f/14, *Sunlighted white wall*, 22.5: indicated, $\frac{1}{125}$ at f/14—zone 8, $\frac{1}{2}$ at f/14. Negative slightly low in contrast.



Exposure series at DN 35 $\frac{1}{2}$. Zones as given in caption for first picture. E.I. 250 ($\frac{1}{8}$ recommended exposure): negative greatly underexposed, all dark tones degraded, no blacks in print. Print exposure 10 seconds at f/22, no filter.



E.I. 32 (recommended exposure): negative O.K. Print exposure 15 seconds at f/16, no filter.



E.I. 16 (2x recommended exposure): negative O.K. Print exposure 25 seconds at f/16, no filter.



E.I. 4, same negative as last print, but contrast raised to "normal" by printing with PC-3 filter. Print exposure, 18 seconds at f/8, PC-3 filter.



E.I. 2 (16x recommended exposure): drastic contrast loss from overexposure, but negative still printable (see next two pictures). Print exposure, 16 seconds at f/8, no filter.



E.I. 125 (1/4 recommended exposure): negative seriously underexposed, all dark tones degraded, no blacks in print. Print exposure 14 seconds at $f/22$, no filter.



E.I. 64 (1/2 recommended exposure): negative somewhat underexposed, loss of contrast in darkest tones. No blacks in print. Print exposure 10 seconds at $f/16$, no filter.



E.I. 8 (4x recommended exposure): negative O.K., slightly lower in contrast. Print exposure 17 seconds at $f/16$, no filter.



E.I. 4 (8x recommended exposure): considerable contrast loss from overexposure, but negative still printable (see next photograph). Print exposure 14 seconds at $f/11$, no filter.



E.I. 2, same negative as last photograph, but contrast raised toward normal by printing with PC-3 filter. Print exposure, 25 seconds at $f/8$, PC-3 filter.



E.I. 2, same negative as last two pictures, but contrast raised to "normal" by printing with PC-4 filter. Print exposure, 45 seconds at $f/5.6$, PC-4 filter.

Zone readings, typical sunny-day scene



Zone 3



Zone 5



Top left: Near Canones, N.M., metering at E.I. 16, Luna Pro. *Adobe in shade*, 16.75: indicated, 1/2 at f/16—zone 3, 1/8 at f/16. *Adobe in sun*, 21: indicated, 1/50 at f/12.5—zone 8, 1/8 at f/12.5. *Bushes in sun*, 19.5: indicated, 1/15 at f/14—zone 6, 1/8 at f/14. Exposure used, 1/8 at f/16. Print exposure, 14 seconds at f/16. Far left: El Valle, N.M.: zone 3 reading on flowerpot at left, E.I. 16, DN 35 (slight underdevelopment for "normal-contrast" subjects, about right for this long-scale one). No filter, print exposure 15 seconds at f/16. Left: El Valle, N.M., zone 5 reading on dark side of chimney, E.I. 16, DN 35. This was a very dark corner. Negative slightly underexposed (print exposure less than zone-0 print exposure, so no maximum black in print). No filter, print exposure 10 seconds at f/16.

changeable measurement is negative contrast. It makes more sense with film than with people.)

In 35-mm work, this isn't practical; but we have printing papers of varying contrast to play with, so there is no problem. If one paper doesn't fit the negative, a higher- or lower-contrast one generally will. No special surgery is needed.

Further: once we drop the one-paper scheme with its "plus" and "minus" development variations, we no longer need to think in all 10 steps or zones. Three *essential* zones and one *convenient* zone will do for shooting, with one more (zone 0) for test purposes only.

This cuts things down to the point where the system can be useful to people who may shoot 10 to 20 different contrast situations on the same roll, with all obviously developed together.

We here adopt an old principle: expose each negative for its best quality at a *standard film development*. To do this, we must learn two things by experiment (the data sheet that comes with the film may fit our needs, but more likely it does not—so says experience).

1. What is the film's real speed?

2. What is the best development for most of *your* pictures? (The most useful compromise between developing for low-contrast and for high-contrast subjects.)

There are methodical tests from which you can learn both answers in terms of your own equipment, your own taste in printing, and your own choice of printing paper.

Before going on to the tests, it seems worth saying that I did them backwards and made extra work for myself, which has taught me the order in which I give them to you. I tracked down film speed first and degree of development second. It's easier the other way around: development affects film speed.

Development test

Shoot three rolls of pictures—it's good to repeat the same shots on all three rolls—bracketing exposure with each subject: the recommended exposure at the ASA speed; twice as much exposure; and half as much exposure.

Try to photograph some light subjects, some dark ones, and some mixed light-and-dark ones with a long range from deep shadow to bright highlight.

Develop the first roll either according to the manufacturer's instructions or to

your best information.

Print the resulting negatives—all of them—on your choice of a single "normal-contrast" paper. Make "straight" prints with no burning-in or dodging, and develop them all normally (you're after information here, not masterpieces). Within these restrictions, make each one as well as you can.

If, on the whole, the prints are too contrasty (lively grays in the middle, but loss of detail in highlights or shadows or both), the roll is overdeveloped. Develop the next roll about 20 percent less and print it.

If, on the whole, the prints are too flat, soft and gray, with full highlight and shadow detail but weak tones, the roll is underdeveloped. Develop the next roll about 20 percent more and print it.

If the roll prints beautifully, be glad and consider the development correct.

Three rolls are generally enough to let you zero in on development, but if not, shoot and develop more.

When you are satisfied that all the tones in your prints are clear (no loss of dark or light detail) and lively, the film development that produced the negatives is *your standard development*.

The development test will also give you a rough idea of the film's speed, but don't skip the film-speed test, which will tell you more. You want to know what you're doing when you meter and expose, and at this stage it is possible that you haven't yet seen the best quality you can get. You might not know what you're missing.

Film-speed test

The film-speed test has two parts: a simplified gray-card test, and a picture-making test.

For the gray-card test, you need a Kodak Neutral Gray Test Card of 18 percent reflectance, available at photo stores. Set it up in even light and take a series of exposures ranging from five stops less than the recommended exposure (the ASA speed) to eight stops more than the recommended exposure. (In other words, from 1/32 of recommended exposure to 256x recommended exposure, in one-stop or 2x steps—each exposure twice the one before.)

Develop the film at your standard development and print all the negatives at your standard test-print exposure—the minimum print exposure that will produce the paper's deepest black from a blank, unexposed but

Near Chimayo, N.M., both pictures:
zone 8 reading on sky, E.I. 16
DN 35. Left, flat subject plus
underdevelopment equal:
very flat print. No filter, 20
seconds at $f/16$. Below, same
negative printed with PC-
filter, 45 seconds at $f/8$

Zone 8, "normal" print



Zone 8, contrasty print



Zone 5, "normal" print



Zone 5, low-contrast print



El Valle, N.M., zone 5 reading
on wall behind bed at right, E.I.
16, DN 35. Negative slightly
underexposed (print exposure less
than zone-0 print exposure, no
maximum black in print). No
filter, 10 seconds at $f/16$, left
above, PC-1 filter, 25 seconds
at $f/16$ brought in more detail
in bright window

developed negative on the same roll, at the same degree of enlargement as your development-test prints and using the same paper with the same print development.

Placed together, these test prints will form a gray scale, from black or very dark gray to white or very light gray.

Look for the first print in this dark-to-light series that matches the gray card, or, if none quite match, the first print that is slightly lighter than the card. This will establish your highest generally practical film speed. (It's a big help to photograph a card on which the E.I. number of the exposure is boldly written along with the gray card: then you can just read it instead of having to calculate it.)

At any higher film speed or less exposure, at that film development, you may be able to print light picture tones well, but only at shorter print exposures than are required to produce a real black anywhere in the print. There is some leeway here, since printing is a subjective matter based on feeling, not measurement, and often you don't need any maximum black in the picture. Still, it seems sensible to shoot with enough exposure so you *can* have a deep black if the picture needs one.

Exposure series for film-speed test

In 35-mm, use a 20-exposure roll. For the gray card test, base your exposures on a meter reading of the gray card with the meter set at the recommended ASA speed of the film. It's good to shoot all of any such exposure series at the same f-stop to avoid changes in the optical quality of the image.

For picture tests, base your exposures on zone-system readings of zone 3, zone 5, and zone 8, as the subjects suggest (details on zones coming up: read them and come back to this before shooting picture exposure tests).

The initials E.I. will keep coming up from here on. They stand for "exposure index" or film-speed rating. E.I. numbers are exactly like ASA numbers—the same numbers stand for the same exposure values. The reason I use E.I. numbers is that ANSI (ASA that was) established those numbers strictly in terms of a specific film-speed test, not this one, and the ASA prefix should be used only for that test method. ANSI doesn't want to be mistaken for me, and I don't want to be mistaken for ANSI. We disagree too often about film.

The second part of the film-speed test

FILM SPEED TEST SEQUENCE

Frame		ASA 32 film	ASA 125 film	ASA 400 film
1.	Recommended exposure	E.I. 32	E.I. 125	E.I. 400
2.	Blank frame (lens cap on)	—	—	—
3.	1/32 recommended exposure	E.I. 1,000	E.I. 4,000	E.I. 12,800
4.	1/16 recommended exposure (-5 stops)	E.I. 500	E.I. 2,000	E.I. 6,400
5.	1/8 recommended exposure (-4 stops)	E.I. 250	E.I. 1,000	E.I. 3,200
6.	1/4 recommended exposure (-3 stops)	E.I. 125	E.I. 500	E.I. 1,600
7.	1/2 recommended exposure (-2 stops)	E.I. 64	E.I. 250	E.I. 800
8.	Recommended exposure (-1 stop)	E.I. 32	E.I. 125	E.I. 400
9.	2x recommended exposure	E.I. 16	E.I. 64	E.I. 200
10.	4x recommended exposure (+1 stop)	E.I. 8	E.I. 32	E.I. 100
11.	8x recommended exposure (+2 stops)	E.I. 4	E.I. 16	E.I. 50
12.	16x recommended exposure (+3 stops)	E.I. 2	E.I. 8	E.I. 25
13.	32x recommended exposure (+4 stops)	E.I. 1	E.I. 4	E.I. 12
14.	64x recommended exposure (+5 stops)	E.I. 0.5	E.I. 2	E.I. 6
15.	128x recommended exposure (+6 stops)	E.I. 0.25	E.I. 1	E.I. 3
16.	256x recommended exposure (+7 stops)	E.I. 0.12	E.I. 0.5	E.I. 1.5

is to shoot the same five-stops-under to eight-stops-over series with pictures instead of a gray card. Because they are more complex than gray cards, pictures introduce variables that can lead you to refined technique and better results. For instance, as you'll see, some of my picture-test results usefully contradicted the gray-card-test results, showing that under some conditions the film behaved faster than the card test showed, while under other conditions it behaved slower. It's nice to know when to expose more or less than the theoretical norm to get better quality.

These tests, if you print all the negatives, will also show you the film's limits—how much over- and underexposure it can take before any deterioration of image quality shows; and how much before the image is destroyed. These are useful things to know.

Zone-system metering and exposing

To shoot these picture-test series, you need to know zone-system metering and exposure practice in terms of zone numbers and tones. So here are the three zones you really need and one more that's convenient, though not essential, for shooting.

I use their numbers from the 10-zone scale, partly so you can refer to zone-system literature without confusion, but more because these numbers show relative exposure (for instance, $5 - 3 = 2$: and yes, you get zone-3 exposure by giving two stops less than zone-5 or indicated exposure).

ZONE 3 stands for:

The darkest part of the subject that

you want to print as "textured, detailed black" (grays that convincingly say "black").

Those darkest tones in the print that show full texture, detail, and tonal modulation.

The amount of exposure you give for such a dark area (and the rest of the picture falls in place as lighter tones and higher zone numbers): $1/4$ the indicated exposure given by a meter reading of that dark part of the subject: two stops under the indicated exposure.

That thinnish density in the negative that prints as "textured, detailed black" when "zone-5 density" prints as middle gray.

Zone 3 is the key tone to meter, and on which to base your exposure, when the subject is all or mainly dark; and for most subjects with a "long scale" from very dark to very bright. For me it is the most useful zone of all; it works for about three-quarters of my pictures, I think.

ZONE 5 stands for:

- ✓ Middle gray in the subject—not dark, not light.
- ✓ Middle gray in the print.
- ✓ The exposure indicated by the meter, used unchanged in exposing the negative.
- ✓ Median density in the negative—not thin, not dense, relative to the picture's other tones.
- ✓ *Zone 5 is the standard for metering and exposing subjects that are mainly or entirely mid-toned, not dark or light, and for subjects of inherently "short scale" or low contrast—from not very dark to not very bright. This includes the copying of pictures on paper or other opaque*

Zone 3 exposure series, Panatomic-X



1



2



3



4



5



6

surfaces: in such cases, meter a gray card laid over the picture.

ZONE 6 is the convenient nonessential value. It stands for:

- ✓ In subjects, ordinary white people's skin.
- ✓ One tone lighter than middle gray in the print: call it light middle gray.
- ✓ Twice the exposure indicated by a meter reading of the skin: one stop more.
- ✓ A slightly denser-than-median density in the negative.
- ✓ *Zone 6 is the key tone to meter when taking front-lighted portraits of palefaces who are not deeply tanned.*

ZONE 8 stands for:

- ✓ In subjects, the lightest tone that you want to print as "textured, detailed white" (grays that say "white" convincingly).
- ✓ Eight times the indicated exposure shown by a meter reading of that bright part of the subject: three stops over indicated exposure.
- ✓ The highest density in the negative that will print with full detail in light grays when zone-3 densities print as richly detailed dark grays and zone-5 densities print as middle gray.

Zone 8 is the key tone to meter when you shoot all or mainly bright subjects without important dark tones: snow fields and sunlit clouds.

(Ansel Adams prefers to expose such tones at "zone VII-I/II" or zone 7½, but the difference in tone is very small and whole stops seem more convenient in practice.)

One more tone is essential for testing, but seldom useful in shooting: *zone 0*. The zero means what it says, "no exposure" or too little to register printably on the film. It is the density of an unexposed but developed piece of film—otherwise it's called "base-plus-fog" when considering negatives; and "saturated black" when talking about print tones. Its use, as you already should know, is to find the test-print exposure for zone-system gray-card film-speed tests. Different films and different developments produce different zone-0 densities, so be sure you use the zone 0 of the film you're testing.

Standard exposure for zone 0 is five or more stops less than the indicated exposure; or better, no exposure to light at all.

Materials

For this article, I decided to find out how to use a film I wasn't familiar with: Panatomic-X. To develop it, I used D-76 diluted 1:1. This is a "one-shot" developer: discard after use. Dilute just before developing. I printed on Polycontrast Rapid RC glossy, mostly without a filter, and developed all prints for 2 minutes in Kodak Dektol diluted 1:2 (one part stock developer, two parts water).

"Normal" is a word that I often think should never be used without quotation marks—it means such different things to different people—but if any combination can be called normal without qualification, it's an all-Kodak, all-classical lineup like this.

Procedures

As I said, I did it backwards: I worked on film speed first and development second.

I began by photographing a Kodak Gray Card and a Kodak Gray Scale together in open-shade daylight, using my old Konica FP, a good camera that has never given trouble. I shot exactly the exposure series given above under "ASA 32" film—Panatomic's rating—from E.I. 1,000 or five stops under to E.I. 0.12 or eight stops over the recommended exposure, by one-stop steps. That is, the exposures ranged from 1/32 of what Kodak recommends to 256 times the recommended exposure, a range of more than 8,000 to one—enough to show the film's behavior with extreme under- and overexposure as well as in its "good exposure" range.

The next problem was how much to develop: not knowing the film well, I didn't know. Bill Pierce's POPULAR PHOTOGRAPHY column gave a clue when he said in passing that many people do well with FX (short for Panatomic-X) exposing at ASA 32 and developing in D-76 1:1 for 7 minutes at 68 F.

I also had three conflicting recommendations from Kodak for this film/developer combination. The first, from the data sheet packed with the film, was 9 minutes at 68 F. The second, from the current *Kodak Darkroom Dataguide* was (with compensation for "moderate lens flare" and "condenser enlarger") 4 minutes 40 seconds at 68 F. I used the third, from the 1970 *Kodak Master Darkroom Dataguide*, because it was in

continued on page 106

Near Cañones, N.M.: exposure series. Zone 3 reading, darkest part of barn door 1 E.I. 64 (1/4 recommended exposure). DN 36. Some loss of shadow contrast from underexposure. Print exposure (same as zone-0 print exposure) no filter, 12 seconds at f/16, 2 E.I. 32 (recommended exposure). DN 36. This exposure O.K. Print exposure, 17 seconds at f/16, no filter. 3 E.I. 16 (2x recommended exposure), DN 36. This exposure O.K. Print exposure, 30 seconds at f/16, no filter. 4 E.I. 8 (4x recommended exposure), DN 36. This exposure O.K. Print exposure, 14 seconds at f/11, no filter. 5 E.I. 4 (8x recommended exposure), DN 36. Slight loss of contrast from overexposure. This exposure acceptable, not optimum. Print exposure, 20 seconds at f/11, no filter. 6 E.I. 2 (16x recommended exposure), DN 36. Considerable loss of contrast from overexposure, but negative still printable. Print exposure, no filter 15 seconds at f/8.

PETER ANGELO SIMON'S FAMILY ALBUMS

The ubiquitous picture album takes on new meaning when a professional photographer does the shooting

By NANCY STEVENS

The first person I spoke to about Peter Simon's family photographs was 10-year-old Jennifer Miller; she was home from school recovering from the flu, and rambling around in a bored but informative way in her parents' spacious apartment on Manhattan's fashionable Upper East Side. "My father takes pictures of us," she explained, "but they don't come out. That's why he got Peter. That way he can be in the pictures because he is part of the family. And Peter is a professional."

How did it feel having a photographer follow you around with a camera all day? "It was good. He said, 'Smile, don't make faces. Be natural and be happy.' He really liked our eyes." To this day, Jennifer remains intrigued by the photographs Simon took of her eyes and those of her seven-year-old sister, Darcey. "We have blue eyes," she continued, "I have heard about 300 times, 'Oh, you have beautiful eyes.' Either my father told him something about our eyes or else he just took them because they are so blue." Even though Simon had photographed her family nearly three years ago, Jennifer remembered one other detail quite clearly. Peter had a big beard, and in her estimation, that seemed to make him an even better professional.

Peter Simon, now clean-shaven, works as a free-lance photographer and documentary filmmaker in New York. Like many a free-lance, he does not specialize, but is always trying to push himself and his craft to new limits. Simon has tried his hand at advertising and editorial photography; his work can be seen regularly in *New Times* magazine, on which he is a contributing photographer. He also created an award-winning cover photograph for the *New York Times Magazine* story on the

astonishing differences between the left and right side of the human brain.

One of Simon's most lucrative and successful activities revolves around his special approach to photographing young families. In his own words, Simon explains, "I have developed a way of photographing families over the last few years which originally grew out of my work in documentary films and which has proven very exciting in its results. . . . I have found that the discipline of a single day works very well both for reasons of narrative and for the intensity of vision that results. I would come and live with your family for a day and shoot 'A Day in the Life of Your Family,' allowing a second day to do any more shooting I felt necessary." Within a few days Simon sends his clients a set of contact sheets and the editing process begins. The cost of an essay, either in the form of a bound volume of 40 to 50 prints or as a group of exhibition prints designed for wall space now ranges from \$1,000 to \$2,000, not including travel expenses, shipping, and framing.

There is a certain appeal to Simon's approach when he further analyzes the factors responsible for a successful "Day in the Life" project. "What I do is really the result of an interaction between an individual family and myself. There are certain elements that make it work," he emphasizes, "and I have found from my experience that energetic families with a variety of interests are ideal for it."

It is almost as difficult to find a young family that is not energetic as it is preposterous to find people who are not interested in the family unit—whether they manifest their interest by loudly declaiming the nuclear family's imminent and agonizing death; whether they actively participate in the undertaking as



The Kings are a lively New York City family where grandparents, parents, and grandchildren often gather together to enjoy each other's company. Mrs. King commissioned Simon to photograph the entire family on one winter's day that culminated in a spirited dinner. He recorded the event with little difficulty; in the process, became part of it, partaking of both wine and heated dinner debate. At far right, Simon captured Gideon, then four years old, in an animated moment in the living room, and later, at right, sharing a quieter moment with his older sister Debby.





The Sander family of Princeton, N.J., is a family more in spirit than in form. With five children who are now young adults, it is difficult to assemble the group, even for a visiting photographer. Simon solved this problem of determined American individuality by photographing each family member in his or her own pursuits. These include such diverse activities for 17-year-old Casilda as bouncing on her trampoline and vamping in her bedroom. Richard naps, and Cintra poses under the portrait of her namesake.



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new parents; or whether, as scientists and anthropologists, they study the family on a cross-cultural basis. Dr. Margaret Mead has spent much of her adult life traveling throughout the world to document families of many cultures. Mead emphasizes the use of photography in her work, and has been an active proponent of the camera in field work since a 1936 trip to Bali, when she first took a Leica fitted with a then newly perfected rapid winder. She returned with 28,000 pictures. Mead learned quickly that as a successful anthropologist, one must "learn to virtually not be there. An anthropologist should always carry a camera. If you want to be really conspicuous, leave your camera at home," she adds.

It seems that Simon's success in working with families comes largely from applying some of Mead's further observations. "In our contemporary world," she writes in the introduction to her book, *Family*, "no one can think or work with a single picture of what a family is. No one can fit all human behavior, all thought and feeling, into a single pattern . . . all the pictures in this book have been taken since the launching of Sputnik, when we gained our new vision of a single world viewed from space. All of them were taken by a photographer who came to each place as an eager, interested stranger, with confidence in what his eye could see and with a special gift for entering without interrupting an on-going scene."

The photographer in question is Ken Heyman, recently awarded the World Understanding Award by the 33rd Annual Pictures of the Year competition (jointly sponsored by the National Press Photographers Association, the University of Missouri School of Journalism, and Nikon, Inc.). Heyman and Simon work in the same spirit, although they travel in different worlds. When Simon works on the family portraits, his "field work," circumscribed by economic circumstance, is often limited to well-to-do New York City neighborhoods and the outlying suburbs of Connecticut, upstate New York, and New Jersey. Simon's travels are vertical, usually taking him to spectacular penthouse apartments perched high over New York City with breathtaking views in every direction. Nonetheless, Simon captures some of those same qualities of family life that Heyman may photograph with Mead among the poor

in Bali or Mexico.

Simon practices another of Mead's hard-learned lessons. She explains that people in all cultures have learned how to confront the camera in poses that reveal little of their character. "After the 900th picture, they get tired of standing like this (and she mimics a good soldier standing at attention). Then I put film in the camera." Although Simon shoots with film in his camera from the very beginning, he applies the principle of overshoot to relax his subjects and make himself inconspicuous.

In the spirit of the impartial anthropologist, Simon says, "You really need an outside eye to do this. I find I do my best work with people I don't know. I take one quick deep look, sort of like a surgeon. I see the family as a group and then I explore each person's world within that group." His photographs

"My father takes pictures of us but they don't come out. That's why he got Peter. That way he can be in the pictures because he is part of the family."
—Jennifer Miller

illustrate a joy and intimacy not often shared with a total stranger. They are eloquent in the speech Mead describes as "a common language that survives and transcends all the differences in linguistic form, social organization, religious belief and political ideology that divide men." Even among Simon's fairly homogeneous group of families, all happily nestled in a healthy upper middle and upper class economic bracket, one encounters surprising individual differences. Simon's approach works because he understands and appreciates each family's uniqueness. This is reflected repeatedly in the manner in which he approaches different families, the final product he creates for them, and finally, each family's memories and reactions to the experience.

I visited a number of the families Simon had photographed to see how these people lived with the photographs,



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how they recalled the event, and what impact, if any, the "Day in the Life" has had on the on-going life of their family. Most people were eager to bring out the photographs or take me to the place where they were displayed. And almost everyone talked warmly about the time spent with the photographer. Some saw Simon as a sensitive artist, not to be disturbed in the creative process; others saw him as a zany, inscrutable madman who would do or risk anything to get the right picture; and still others saw him as a partner in the collaborative effort of creating a family record. Many of them were willing to talk of their time with Simon, but hesitated for fear of getting unwanted publicity. To calm their fears, I have not used first names of the adults.

The King family

Every family has its own style and

"He followed us around too much. In the bowling alley, he lay down on the alley to take pictures of us. They were yelling at him to get out of there."
—John King

distinctive personality, but the King family in New York City is decidedly special. I visited them at the end of the spring vacation, after their return from a cruise in the Caribbean. As I sat and talked with Mrs. King, her children—ranging in age from six-year-old Gideon to 17-year-old Debby—passed in and out of the living room, stopping to listen, look at Simon's photographs, and offer observations.

Mrs. King first heard of Peter Simon when she read an article about his informal approach to family portraiture in the *New York Times*. One photograph accompanying the story and captioned "Kyra, three, has her grandfather, George Feldman, enthralled," caught her attention. "We have four children and their grandparents are around a lot," she noted. "The pictures reminded me of my family."

The King family enjoys celebrating occasions, and luckily for them, it takes very little to suggest an occasion. But on

one day in December two years ago, three events conspired to create a very special day. Mrs. King's father had just returned from the hospital after major surgery and her youngest son was celebrating his fourth birthday. Both events coincided with the celebration of Channukah. She called Simon to ask him to spend that day with the family. From her first contact with the photographer, she was surprised. "I asked him if he could come over about 11 o'clock in the morning. He startled me. He asked if it would be all right if he got there around 8:30."

"Peter really moved in. Sometimes we thought he was berserk," says Mrs. King of her memory of the dedicated photographer who came to live with them for a day. "He insisted on participating in all the family activities as an observer with a definite personality and opinion." He accompanied them when they went to pick up 13-year-old Judy and later went bowling with them. He taught nine-year-old John magic tricks and showed Judy how to work her Konica Auto ST camera.

"In the beginning, we were a little uptight because we were not prepared for him becoming such an intimate member of the family right away," recalls King. Simon's enthusiasm, in the family's estimation, knew no limits. John registered the only complaint, although he was easily persuaded to drop it. "He followed us around too much. In the bowling alley, he lay down on the alley to take pictures of us. They were yelling at him to get out of there." But then Debby admits that it was fun. "I didn't mind it at all," she concedes. "He followed us all day, but it was sort of funny."

Although this day already qualified threefold as a memorable one, the photographer's presence and purpose intensified everyone's experience. When at dinner, glasses were raised to offer toasts to each other, someone added a special toast, "To the photographer." This moment begged a picture, and Simon could not resist taking it. It now appears among the 20 prints purchased by the King family as testimony to their enthusiasm and ebullience. Both the picture and the toast have their place in the ever-evolving family tradition. "Still to this day," explains Mrs. King, "when we go somewhere and raise our cups, we say 'To the photographer.' Last week, on my birthday, we bought champagne and toasted Peter."



Simon visited the Augustus family in their spacious penthouse apartment overlooking Manhattan Island and points east, west, and south. He photographed them indoors, in their museum-like quarters, and also got to know them as down-to-earth folks walking through crowded city streets en route to Central Park. For these and most assignments, Simon shot with 35-mm SLR in available light.





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Among the photographs that the Kings chose for a wall display in their apartment is a picture of Gideon flinging himself into an impromptu, improvised dance. At the moment Gideon felt moved to dance, Simon had been relaxing on the carpet, taking one of his rare breaks during the day's on-going shoot. His camera was lying on the other side of the room. In an instant, however, the photographer had composed and recorded his shot. "I have never seen anyone fly for a camera so fast in my life," recalls Mrs. King.

Everyone in the King family fully appreciated Simon's naturalness as he became part of the family, and during dinner discussions on various political topics, ventured his own opinions on the subject at hand. Even though the family dinner was brightened by photofloods reflected from the ceiling, he did not seem to mind, and therefore the family did not either.

The King's subsequent dealings with Simon were equally surprising and pleasant. The contact sheets were brought to the house within five days, and for a pre-inflation price of \$750, the Kings made a final selection of 20 prints for the wall display.

In retrospect, the day with Simon was much more than an offbeat, zany experience. "He didn't just take the pictures I call the governor's family type where everyone smiles with a pasty face and tries to look distinguished," says Mrs. King. "But neither did he take 'candid.' I know photographers who take so-called candid shots. But to get five candid shots, you have to pose, and it takes as much time as we spent with Peter . . . a whole day. If he had asked us to repeat any action at any time during the day, it would not have been natural. Despite the kids' protests, everyone would have been furious if they had been asked to sit still even for one hour. Peter never even asked us to hold anything for an instant."

In conclusion, she calls the Day in the Life of her family a "very positive experience. I would do it again tomorrow, but we can't afford it."

Her daughter Debby adds, "If I have a family, I'd do this kind of thing. And I would display it in the hall."

The Sander family

The Sander family in Princeton, N.J., exemplifies the family that does not have time to sit still for its portrait. The

arrival of a photographer provides an event in itself worthy of calling all seven members to a momentary halt. But with five children, ranging in age from 17 to 23, who are actively interested in areas as diverse as coastal ecology, fashion modeling, and horseback riding, it is still a day of catch-as-catch-can.

Mrs. Sander, herself a commercial artist, explains the many factors that led her to ask Peter Simon to photograph her busy family. It all began a few years ago when she was trying to solve a built-in structural problem in her house. Fourteen years ago, she hired an architect to build a spacious home in Georgian style for her young family. Prices kept mounting; finally, the decision was made to do without an extra hallway, thereby using the dining room as a passageway between the main entryway and the kitchen. The

"I take one quick deep look, sort of like a surgeon. I see the family as a group and then I explore each person's world within that group."
—Peter Angelo Simon

dining room kept its formal character despite its secondary role. But as the children grew older, the Sander family life-style became more casual and the formal dining room was used primarily as a hallway and general repository for books, homework, and other junk.

Mrs. Sander was bothered by the coldness of the room and considered redecorating it. It was then that her oldest daughter, Cintra, interested her in the idea of using photographs to liven up the room. This idea appealed to her immediately. "You can always spend money on redecorating a room. But when you take pictures, it is one special day that you can never re-do again. You can always get new curtains. You can't always get photographs."

The photographs that Simon took in the spring of 1973 have since become the core collection for the ever-growing montage of photos that comprise the Sander permanent dining room exhibition. As we sat around the table in



The Steinhardts of New York City commissioned Simon to prepare an album and a wall display designed for the stairwell of their duplex apartment. As with so many city-dwellers, the view from the Steinhardt's windows is as integral a part of their apartment as the interior walls and furnishings. At top, Simon captured father and son looking out on the city sights. Being a mother of young children takes quite a bit of flexibility, both physical and mental. Mrs. Steinhardt, far left, tries to keep her hands on both Daniel, then 18 months, and David, then four. Left, she whispers a confidence to her son.



The Feldman family lives on a "semi-farm" in Yorktown Heights, N.Y. Simon sometimes takes poetic license with his photographs, as witness the picture of the Feldman children tending the sheep. Actually a couple living on the land care for the animals. Getting back to basics seems to be an important part of their lives, as shown in these pictures.

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the late afternoon, Simon began rearranging the mounted, but unframed, prints that had been tentatively push-pinned on to green panels. As Simon worked, he offered various suggestions concerning framing and enlarging certain pictures. He was not pleased to contend with photographs that were not his, but resolved this inconvenience by ignoring them.

Mrs. Sander has discovered an added benefit in the dining room display. As an artist, she finds that she needs "to see things in order to understand them." Likewise, it is easier to explain complicated matters—like her family—to newcomers through the visual aid of the photographs. To use her terminology, the Sander family is a combination of "his" and "hers"—the children being the products of two former marriages. She admits that the idea of a family portrait appealed to her as an attempt "to make two families work as one." Even if she cannot always count on having the five children together in one place at one time, she can sit quietly and see them all at once. "I pulled them together in this room. It has become a warm room." The moments captured in Simon's photographs are filled with charm—they would take the chill out of the most formal room.

"You never get tired of looking at these photographs," the Sander mother assures me, "Especially when they are of your own children."

Simon stops only momentarily from his work to join our conversation. He seems to talk from experience. "Sometimes it is a lot easier to have the photographs around than the children."

The suspended moments that surround the Sander family in their dining room have become part of the daily iconography of the happier times in the life of a family. Their function is timeless in the order of family documentation. Nevertheless it is difficult to date them. No one is quite sure as to when the photographs were taken—although everyone agrees it was a weekend in spring. On the day of the shoot, Simon managed to spend individual time with each family member. Later, through the vehicle of a wall display, he was able to create a synthesis of those disjointed moments that convey his message, "Family," loud and clear.

"I had no plan," recalls Simon. "I

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THE HARVEY FAMILY

June 16, 1974

Simon puts together a picture album of 40 to 50 prints for from \$1,000 to \$2,000, not including travel expenses and shipping. He also offers exhibition prints designed for wall space for the same amount, not including framing.



The 9th Here's How (Eastman Kodak Co., \$3.50). Techniques of travel, pet, and zoo photography, slide shows, Sabattier effect, and people pictures. **The Perfect Photograph**, by Andreas Feininger (Amphoto, 1974, \$9.95). A master photographer's approach to combining techniques, art, and personal expression.

The Persuasive Image, by Art Kane (Alskog, 1975, \$4.95). How to make striking images by a bold approach to color and composition.

Photographic Seeing, by Andreas Feininger (Amphoto, 1973, \$9.95). The art of creating interesting photographs by perceiving images as the lens sees and the film records them.

Special Problems (Time-Life Books, 1971, \$9.95). Shooting techniques in a variety of difficult and unusual situations.

ADVERTISING

Impact—Photography for Advertising, by William L. Reedy (Eastman Kodak Co., 1973, \$19.95). A lavishly illustrated volume with 180 pages of color photographs that communicate commercial messages.

The Photo Illustration, by Bert Stern (Alskog, 1975, \$4.95*). The creation of images from ideas, by a well-known professional.

ANIMALS & PETS

Animal & Pet Photography Simplified, by Mildred Stagg (Amphoto, 1975, \$3.95*). The techniques of photographing household pets and animals at the zoo.

How to Photograph Cats, Dogs, and other Animals, by Walter Chandoha (Eastman Kodak Co., \$7.50). A noted animal photographer describes his working methods; 250 photos.

CAMERA MANUALS

The Canon Manual, by Paul Jonas (Amphoto, 1975, \$10.95).

Konica Autoreflex Manual, by Lou Jacobs, Jr. (Amphoto, 1974, \$10.95).

Leica Manual, edited by Douglas O. Morgan, David Vestal, and William Broecker (Morgan & Morgan, 1973, \$23).

Minolta System Handbook, by Joseph D. Cooper (Amphoto, 1972, \$22.50).

Nikon/Nikkormat Handbook of Photography, by Joseph D. Cooper (Amphoto, 1974, \$29.50).

Honeywell Pentax Manual, by Joseph D. Cooper (Amphoto, 1975, \$27.50).

Rollei Manual, by Alec Pearlman (Morgan & Morgan, 1973, \$14).

CHILDREN

Photographing Children, by Hank Harris and Sandra Wallace (Petersen, 1974, \$2.95). A concise handbook covering technical and psychological approaches to the subject.

Photographing Children (Time-Life Books 1971, \$9.95). How to do it, with a portfolio of the work of 10 leading photographers.

CLOSE-UP & COPYING

Close-up Photography (Eastman Kodak Co., \$2.95). Techniques of making close-ups of three-dimensional objects.

Copying (Eastman Kodak Co., \$1.50*). Describes equipment and methods of copying photos, drawings, and paintings. **Making Slide Duplicates, Titles and Filmstrips**, by Norman Rothschild (Amphoto, 1973, \$9.95). Basic and advanced procedures for accurate copying.

COLOR

Basic Color Photography, by Andreas Feininger (Amphoto, 1972, \$7.95).

Detailed guide to the elementary aspects of making pictures in color.

Kodak Color Dataguide (Eastman Kodak Co., \$8.95). For advanced workers; contains technical information on exposing, processing, and printing color pictures; includes dial computers, a standard negative and print, and viewing filters.

Color (Time-Life Books, 1970, \$9.95). Explains the color process and includes outstanding examples of color photography.

Color as Seen and Photographed (Eastman Kodak Co., \$4.95). A concise handbook with practical hints on making better color pictures.

Color Primer I & II, by Richard Zakia and Hollis N. Todd (Morgan & Morgan, 1975, \$6.95). A programmed instruction manual that teaches the principles of additive and subtractive color. With two sets of three-color filters.

DARKROOM

Bigger and Better Enlarging, by Nibbelink and Anderson (Amphoto, \$10.95). Procedures for enlarging color and black-and-white photos, including advanced techniques.

Color Printing (Petersen, 1975, \$2.95). Covers darkroom equipment, color reversal printing, and mounting prints.

Creative Darkroom Techniques (Eastman Kodak Co., \$6.95). Advanced procedures, from making photo-silkscreen prints to creating new images from existing negatives.

Kodak Darkroom Dataguide (Eastman Kodak Co., \$8.95). Data for black-and-white processing, printing, and copying. Includes prints on a variety of paper samples.

Lootens on Photographic Enlarging and Print Quality, by J. G. Lootens (Amphoto, 1975, \$12.95). Revised edition of a classic guide to darkroom techniques.

Printing Color Negatives (Eastman Kodak Co., \$2.50). Step-by-step explanation of techniques for making color prints and transparencies from color negatives, using Kodak materials.



FIGURE PHOTOGRAPHY

Gowland's Guide to Glamour

Photography, by Peter Gowland (Crown, 1972, \$6.95). The methods of a famed glamour photographer, with many examples of pictures made in the studio and outdoors.

Nudes: My Camera and I, by André de Diènes (Amphoto, 1973, \$14.95). Superb examples of the female nude by a master of his craft.

Photographing Sensuality, by J. Frederick Smith (Alskog, 1975, \$4.95*). Fantasy and realism in imaging the female form.

FILTERS

Filter Guide for Color and Black &

White, by Norman Rothschild and Cora Kennedy (Amphoto, 1971, \$3.95).

Corrective and creative uses of filters in all types of photography.

Photographic Filters, by Leslie Stroebel (Morgan & Morgan, 1974, \$4.95). Filter theory and use, taught by programmed instruction. Includes three filters and a gray scale.

LARGE-FORMAT

Large-Format Camera Practice, by Joseph Foldes (Amphoto, 1969, \$6.95). Detailed guide to the techniques of controlling the view-camera image.

Photography with Large-Format Cameras (Eastman Kodak Co., \$2.95*). Concise instructions for using view cameras.

View Camera Technique, by Leslie

Stroebel (Hastings House, 1972, \$15). A comprehensive text for the advanced amateur or professional.

LIGHTING

Indoor Picture-Taking (Eastman Kodak Co., \$4.95). Covers many types of photography by available light, flash, and tungsten lighting.

Lighting for Photography, by W. Nurnberg (Amphoto, 1968, \$12.95). A text on the techniques of lighting every type of subject.

MOVIE MAKING

Home Movies Made Easy (Eastman Kodak Co., \$3.25*). An introductory guide to making movies, covering children, weddings, vacations, sports, titling, and editing.

How to Make Good Sound Movies (Kodak, \$2.50). A manual on shooting and editing super 8 sound movies, with information on postrecorded sound.

How to Shoot a Movie Story, by A.L. Gaskill and D.A. Englander (Morgan & Morgan, 1960, \$3.95). The technique of pictorial continuity, from script to editing.

Independent Filmmaking, by Lenny Lipton (Straight Arrow Press, 1973, \$7.95*). A comprehensive guide to every aspect of beginning and advanced movie making.

Making Movies: A Guide to Film Production, by Glimcher and Johnson (Columbia University Press, 1975, \$3.95*). A primer for super 8 and 16-mm movie makers, covering all facets of production.

NATURE

The Complete Book of Nature

Photography (Amphoto, 1971, \$10.95). A detailed manual on the equipment and techniques required in every field of wildlife photography.

Nature Photography: Its Art & Techniques, by Heather Angel (Morgan & Morgan, 1973, \$14.95). A guide to photographing plants, animals, shells, fossils, and marine life.

Photographing Nature (Time-Life Books, 1971, \$9.95). A superbly illustrated volume that shows how photographers can capture nature's wonders with a lens.

PHOTOJOURNALISM

Photographic Communication: Principles, Problems and Challenges of Photojournalism, edited by R. Smith Schuneman (Hastings House, 1972, \$9.50*). An anthology covering 15 years of the Wilson Hicks International Conferences on Photographic Communications. The 53 contributors include photographers, editors, and teachers.

Photojournalism, by Arthur Rothstein (Amphoto, 1974, \$12.95). Describes every aspect of the subject, including history, shooting, lab work, editing, layout, and legal restrictions on use of photographs.

Photojournalism (Time-Life Books, 1971, \$9.95). The history and methods of newspaper and magazine photographers, with a section on the picture essay.



BOOK SOURCES

Harry N. Abrams, Inc.
110 E. 59th St.
New York, N.Y. 10022
Amphoto
East Gate & Zeckendorf Blvds.
Garden City, N.Y. 11530
Aperture, Inc.
Elm St.
Millerton, N.Y. 12546
Arno Press
330 Madison Ave.
New York, N.Y. 10017
Crown Publishers, Inc.
One Park Ave.
New York, N.Y. 10016
Dover Publications
780 Varick St.
New York, N.Y. 10014
Eastman Kodak Co.
Dept. 454
Rochester, N.Y. 14650
David R. Godine
306 Dartmouth St.
Boston, Mass. 02116
Hastings House Publishers, Inc.
10 E. 40th St.,
New York, N.Y. 10016
Helios Press
Pawlet, Vt. 05761
International Museum of
Photography
at George Eastman House
900 East Avenue
Rochester, N.Y. 14607

Laurel Photographic Book Inc.
P.O. Box 956
Melville, N.Y. 11746
Light Impressions Corp.
Box 3012
Rochester, N.Y. 14614
Marboro Books, Inc.
205 Moonachie Rd.
Moonachie, N.J. 07074
Morgan & Morgan, Inc.
145 Palisade St.
Dobbs Ferry, N.Y. 10522
The Museum of Modern Art
11 West 53rd St.,
New York, N.Y. 10019
Photographic Memorabilia
P.O. Box 351
Lexington, Mass. 02173
Publishers Central Bureau
1 Champion Ave.
Avenel, N.J. 07131
Spiratone, Inc.
135-06 Northern Blvd.
Flushing, N.Y. 11354
Viking Press, Inc.
625 Madison Ave.,
New York, N.Y. 10022
Visual Studies Workshop
4 Elton St.
Rochester, N.Y. 14607
Ziff-Davis Publishing Co.
Room 721-A
One Park Avenue
New York, N.Y. 10016



PORTRAITURE

Picturing People, by Don D. Nibbelink (Eastman Kodak Co., 1975, \$12.95). A guide to creative portraiture, covering equipment and techniques with scenarios of professional shooting sessions.

Professional Portrait Techniques (Eastman Kodak Co., \$2.50*). Covers psychology of portraiture and photographing in the studio, outdoors, and in industrial settings. For the student as well as the professional.

PROFESSIONAL PHOTOGRAPHY

Free-lance Photography, by Gary Miller (Petersen, 1975, \$3.95). Information on equipment, markets, business practices, and other subjects of interest to free-lancers.

The Photography Game: What It Is & How to Play It, by Arthur Goldsmith (Viking, 1971, \$8.95). How to get started as a professional, with suggestions about getting clients and assignments.

Photography Market Place, edited by Fred W. McDarrah (Bowker, 1975,

\$14.95). A directory of photographic services, suppliers, and organizations; tells how to find whatever a photo business requires. Includes galleries, picture sources, picture buyers, grants, and awards.

SCIENTIFIC & TECHNICAL

Fundamentals of Photographic Theory, by T. H. James and George C. Higgins (Morgan & Morgan, 1973, \$9.50).

Photographic Chemistry, by George T. Eaton (Morgan & Morgan, 1973, \$6.95).

Photographic Lenses, by C. B. Neblette (Morgan & Morgan, 1973, \$8.95).

SPORTS

Focus on Sports, by Richard Turner (Amphoto, 1975, \$5.95). Covers all sports, including horse shows, hunting and fishing, with guidance on equipment and camera positions.

Photographing Sport, by John Zimmerman, Mark Kauffman, and Neil Leifer (Alskog, 1975, \$4.95*). Focuses on unusual approaches that radically differ from traditional sports photography.

UNDERWATER PHOTOGRAPHY

Basics of Underwater Photography, by Doug Wallin (Amphoto, 1975, \$5.95). An introductory work that covers equipment, flash photography, close-ups and processing.

Underwater Photography, by Dimitri Rebikoff and Paul Cherney (Amphoto, 1975, \$8.95). Includes details on still and motion-picture equipment, lighting, and diving gear.

ZONE SYSTEM

The New Zone System Manual, by Minor White, Richard Zakia, Peter Lorenz (Morgan & Morgan, 1975, \$8.95). Defines previsualization and explains controls of equipment, materials, exposure, and processing, as well as creative and manipulative techniques. **Zone Systemizer**, by John J. Dowdell and Richard Zakia (Morgan & Morgan, 1973, \$9.95). A paperbound book and dial computer for determining contrast control with the use of a reflected-light meter.



35-MM PHOTOGRAPHY

at San Francisco State. Today, as professor emeritus, he still teaches twice a week.

As a photojournalist, he has never quite played the traditional role. As he recalls, "In the early days other professional photographers looked suspiciously at my small camera. They used large cameras, Speed Graphic or Graflex. Then two years later, in New York, every photojournalist of reputation used a Rolleiflex. I felt fortunate to have work in photography because when I came here during the Depression there were no jobs for artists. So photojournalism was a job, and I enjoyed the income and the adventure of the assignments."

He did everything: street cars and ferry boats in San Francisco; a frog-jumping contest; the visit of the German fleet in 1935; the Japanese fleet in 1936; rodeos; graffiti; the 1939 World's Fair; Petaluma, the chicken capital of the world; a series on people and sculpture in the 1940s. In the 1940s and 1950s, he took assignments regularly for *The Saturday Evening Post*, *Life*, *Time*, *Look*, *Parents' Magazine*, *The National Geographic*, had work printed in *Coronet*, *Harper's Bazaar*, *Mademoiselle*, *McCall's*, *U.S. Camera*, *The New York Times Sunday Magazine*, and magazines of other countries.

World War II provided another adventure for Gutmann. In the Signal Corps in Astoria, N.Y., he studied to be a motion picture cameraman. From there he went overseas to the Far East, where he was attached to the Office of War Information. That adventurous phase of his life produced thousands of negatives and film footage taken in China, Burma, and India. These photographs, he says, must be in storage somewhere in Washington's many Government archives. His unofficial work, all in his own archives, was shown in 1947 at the DeYoung Museum in San Francisco, to which he returned to teach art and work part-time through Pix after the war.

The war did more than give Gutmann an adventure. It convinced him of the importance of photography as a major means of communication. When he resumed teaching at San Francisco State College, he began fighting for the inclusion of photography in the Fine Arts curriculum, but the administration opposed him. They wanted to put photography in the Science and Journalism departments. He had to be

extremely persistent to obtain enough money to develop the department from a one-course lab into a first-class facility at the new campus. He was determined to have a place where students could come and experiment with photography as another medium of visual expression.

Today, of course, this idea is very much accepted; the battle of whether or not photography is an art form was won well over 20 years ago. To have incorporated photography as another graphic medium in the art department of a college in the 1940s displayed unusual foresight. By the late 1950s and early 1960s, he was hiring others to teach photography with him because his vocation as a teacher of art encompassed painting, drawing, and art history as well as photography. His actual mission was teaching; his involvement with photography was only a part of it.

Those he hired have now arrived at successful points in their own careers. Both Jack Welpott and Don Worth look upon Gutmann with admiration tinged with awe. As a professor, his reputation is that of being demanding but fair, asking students to commit themselves to high quality work. He taught students about seeing and awareness, which he could illustrate effectively with his vast knowledge of art history.

John Gutmann takes teaching seriously. According to Don Worth, his lectures were prepared with a care and devotion to detail and organization worthy of any scholar. Certainly, during all those years at San Francisco State, his energy was centered in teaching. While Professor Gutmann notes the changes in the attitudes of many teachers today, he has no regrets about his own long teaching career. His is a special perspective: "This country gave me all these exciting visual gifts, and I gave from my experience in teaching. I feel happy about it. It was not just me coming here to take something. I also had something to offer."

Looking back over those years as a professor of art, he speaks warmly, "I'm happy that I have been able to give a lot of young people some stimulation toward creativity. I never put my own work above my responsibilities as a teacher. In fact, it is my belief that teaching is one of the truly great professions. Many of my students have become teachers themselves. It amuses me to call their students my grandstudents."

In 1949, Gutmann initiated the film program at San Francisco State,

bringing to the campus the latest documentary, experimental, and what we now call art films. "People would come from 50 miles away for a showing," he recalls. "There was not another program like it. All rare short films, early slapstick, early work by Antonioni, Franju, René Clair, Buñuel, Paul Strand, John Kory, and Kenneth Anger, as well as the documentary work of the Canadian Film Board. It is my belief that the recent interest in photography on all levels is explained by an almost intuitive world-wide feeling that still photography is the ancestor of the cinema, which is most likely the most significant visual art of the 20th Century. It is perfectly natural that an age of the machine would create one to make images. Any great age creates its images out of the potentials of its own time.

"Actually, photography is the most important revolutionary medium today—as important as writing for communication. Children are being taught to handle the camera almost as much as they are taught to write.

"I have always taught drawing because I believe that the most important thing is to learn to see, not to be lured by style or technique. Some younger photographers are returning to a sentimental dependency upon graphic art. It is great and necessary to experiment with techniques, but it can result in beautifully boring pictures if it results in the emulation of other media. I am interested in the genuine response to life in art rather than a pretentious display of technique."

Personal experience creates the artist and John Gutmann was no exception. He fled the oncoming horror of Nazi Germany to build a new life in America. His awareness of a world on the verge of madness, such as he had left in Germany, contrasted sharply with the world living in a utopian dream, which he found in America. That dream was individual freedom, the kind that brings what Gutmann calls "a beautiful ugliness." Gutmann explains his feelings about the America he saw: "Beauty, what is it? An elevator for cars I saw in Chicago in 1936; now to me that was beautiful. Ingenious. Look, ugly is free! This country was a wonderful place to me. I really learned here what freedom is. Here nobody was bothered by anything people do. At a museum, a woman wore the craziest hat I ever saw, a fantastic creation. Ugly, really, by standards of taste. You know, nobody noticed it at all. In Europe, people would

ask, "Who is she?" They would gossip, call the police, etc.

"Real freedom to me meant: 'I'm not going to tell you what you should do and you're not going to tell me.'"

"People call cities like Detroit ugly. Certainly they have not the taste according to the way I was brought up, but they have marvelous style, in terms of individual freedom."

John Gutmann's European background provided him in America with a consciousness ahead of his time—rather the way Robert Frank expressed his vision through the pictures in his book *The Americans*. Gutmann's natural interest in the exotic also drew him to subject matter that we can now recognize as being expressive of an era—because we have seen its future. For example, besides the car culture he pictured, he made several important essays on minorities; one on Spelman College, the first college for black women; several themes on women, their beauty, their life-styles. He photographed circuses, the Mardi Gras, as well as many death images, skulls, tombs, and fantastic sculpture.

It is no accident that young people today respond to Gutmann's work from the 1930s, which was shown at the Light Gallery in New York in the spring of 1974. He realizes that they understand his vision. "What looked bizarre to me, looks bizarre to them—but they have nostalgia. I lived the era, but in fact, I was as foreign to the 1930s in America as they are distanced from that period by time. But it is their own cultural past, and as I discovered it, so can they through my pictures."

John Gutmann not only saw contrasts, expressed them, but he is them. He represents age, resembling a bearded patriarch with hawklike eyes, at once Mephistopheles and the professor, scholastically detailed and authoritative in his explanations. At the same time, he is youthful, with a wry wit, a questioning mind, and amazing energy, with bold attitudes toward his work as he wages a vigorous attack on his 10,000-negative archive from which he presently is printing. Despite bouts of ill health, he spends more time in the darkroom than ever. As he reprints old negatives, he is rediscovering himself as a photographer. The more sophisticated cultural point of view of young Americans today coincides with his of Europe before the second World War.

From now on any new work from his camera could mean yet another career in photography. His expression would

reflect his vision, which has gone, as he puts it, "beyond art." He adds, "Trying to make art is over. The young people know that the whole Art thing, with a big A, is bullshit. Either you are a creative person, which is called an artist, or you aren't. In life, you can be an artist just in living. The function of art is to interpret life. I was freer to do that through photography than in painting, for which I was in a sense overprepared."

After such an intensive art education, so much exposure to the art world through teaching and making exhibitions, wanting to be a successful artist, Gutmann has moved beyond to the wise realization that only the experience of aging can bring. "For me," he says, "it is very important to live and live fully. Art is just an expression of that living. If my stuff is good enough, it will eventually surface. Meanwhile, I am satisfied finding hundreds and hundreds of negatives I'd forgotten I made. This has been for me a great emotional and creative boost—and I'm only at 1939 in the archive! I haven't even printed all the pictures taken in China, in Mexico. There is so much, and I keep seeing more, even in one print. As you know, I like photographs which give information. Here is one from 1935 which has a sign—tells you that you could eat all these foods for only 10 cents. Can you imagine today—a dinner for 10 cents?"

Since 1973, John Gutmann has been at work selecting negatives from his archives and printing them in his darkroom. This summer in San Francisco, there were two shows of his work, one at the San Francisco Museum of Modern Art, the other at the Phoenix Gallery. Neither show is a retrospective of his life's work in photography because Gutmann is really evolving yet another life-pattern. The images yet to come are potent with possibility, so complex are the lights and darks, the views of life and death, the soft and harsh, the scholar and the artist, the child and the father in this man. The 1970s are the time for his renaissance, having emerged from a series of illnesses and personal losses in the 1960s, followed closely by his formal retirement from the faculty of San Francisco State in 1973.

The work of Gutmann in photography consciously fulfills the vision given him in his youth by the art of Europe, particularly that of German Expressionism. In that vision, the image itself is a kind of "looking glass" on a culture through which a people would see their true selves, rediscover their ideals. When the personal and the

collective are united, the fusion is a living symbol. Living because meaning is communicated; the symbol is indestructible because it is true. Where truth is, time stops because all truth contains death as well as life. The difficult experiences of his last 12 years brought Gutmann to a new frontier, beyond that of his surrealist imagery of the last 40 years. Instead of being bent by oncoming old age, Gutmann works harder than most artists half his age, and is eager to converse about his thoughts. Leaning forward on the stacks and stacks of boxes of newly made prints from his archives, he waves his arms at the walls of artifacts and sculpture, the books and prints, paintings—all the accumulation of a visual life—and speaks seriously (but not without an impish twinkle in his eye), "I have been very close to death several times. People close to me have died. I have dealt with death. I'm not immortal. I'd rather think of myself as indestructible."

There in the photographs is the symbol of his indestructible self, the new one he is creating. John Gutmann, as a seeker of symbols, has more camera work to do. 

MINIMAL ZONE SYSTEM *continued from page 91*

between: 6 minutes 20 seconds in D-76 1:1 at 68 F, with my regular agitation pattern, 10 seconds once each minute for the whole development time. Kodak codes this development time-and-temperature set as Development Number (DN) 35.

The next step was to find the "zone-0" print exposure by making a test print with the blank frame in that roll. It turned out to be 12 seconds at f/16 with my enlarger at the degree of enlargement I use for most prints. That was the minimum print exposure that would give this paper's deepest black from an unexposed piece of Panatomic-X developed to DN 35 in D-76 1:1.

I printed all of the gray card negatives at this exposure, washed and dried them, laid them out in consecutive order from darkest to lightest, and compared them to the gray card I had photographed. The E.I. 16 print matched the card, establishing the film's highest practical speed at that development as E.I. 16—just half as fast as the ASA rating.

Not knowing gray scales well enough to judge contrast from them, I still didn't know if DN 35 was the development I

wanted. The next step was to shoot four rolls under various light conditions, mainly at E.I. 16, and develop them at DN 35. They proved to be slightly low in contrast for my taste—slight underdevelopment.

So I shot more rolls, this time making an E.I.-1,000-to-E.I.-0.12 exposure series with a picture instead of a gray card as well as shooting extensively at E.I. 16. These rolls were developed at DN 36, Pierce's 7 minutes at 68 F. On printing these, I liked the tones much better, though a couple of "chalky" highlights made me think that this might be a slight overdevelopment.

Printing the picture exposure series, I got a surprise. While E.I. 16 had been the bare minimum exposure for some indoor shots developed at DN 35, I got good shadow detail and contrast in these new outdoor shots at ASA 32, the film's official speed. Even at ASA 32, the print exposures were longer than the zone-0 exposure for maximum black with blank film, showing that the negatives were denser than expected. I didn't understand this, but there it was.

Then I shot a gray-card test, same exposure series, and developed it at DN 36. These prints showed a very slight speed gain over DN 35: the E.I. 16 print was a trace lighter than the gray card, though E.I. 32 was definitely darker: the film was still E.I. 16—or maybe 17—according to this objective test. The zone-0 density was unchanged: 12 minutes at f/16 was still the shortest exposure to produce the paper's deepest black.

I looked at the prints again and noticed that every shot where the film behaved faster than E.I. 16 was predominantly light—large bright subject areas against small darker areas. I infer that the extra exposure was contributed by lens flare and by light bouncing around in the camera housing. Yet the shadow contrast in the ASA 32 shots in question was not visibly degraded. This was pure gain, so I accepted it cheerfully.

The meter was a new and accurate hand-held Gossen Luna Pro, which I have used just long enough so I trust it. Probably a behind-the-lens meter in the camera would integrate the "bonus" light into its reading so this anomaly would not appear.

The age of my lenses may be a contributing factor: the ones used here were all bought used in 1966. They perform well, but I suppose they have a *higher flare level than newer lenses*. For the record, they are a Konishiroku

Hexanon 52-mm f/1.8; a Leitz Summicron 35-mm f/2; and a Leitz Super Angulon 21-mm f/4—each used on the camera it was designed for.

I then shot more film and another picture-type exposure series, this time in a not-light, not-very-dark hallway, and developed these at DN 35½, 6 minutes 40 seconds at 68 F in D-76 1:1.

The outdoor, mainly light pictures still proved well exposed and printable at ASA 32, though there was a definite loss of shadow detail and contrast at E.I. 64. The best negative of the hallway series seems to be the one shot at E.I. 8 (based on a zone-5 reading of the shaded white wall near the camera). This is consistent with my first indoor shots, where E.I. 16 was the bare minimum exposure and E.I. 8 would clearly have been better.

The outdoor shots done in sunlight and developed at DN 35½ were slightly low in contrast, and looked better when printed with the PC-3 filter (slightly contrasty), while the hallway shots that got moderate exposure were normal in contrast.

On the overexposure end, there was, at all three developments, a consistent slight loss of contrast at E.I. 8 and a marked loss of contrast at E.I. 4 and E.I. 2, though such negatives printed well enough with the PC-3 or the PC-4 Polycontrast filter, with no obvious loss of quality. Grain became slightly more visible in PC-4 prints, but remained sharp, fine, and even—never conspicuous.

Working conclusions

Using FX outdoors with a hand-held meter, I'll rate it at E.I. 16 for all but the brightest subjects, where I'll use E.I. 32. For mainly dark indoor subjects, I'll expose it at E.I. 8. At least, I'll do this long enough to see how it works out in the long run.

It will all get developed in D-76 diluted 1:1 at DN 36 (7 minutes at 68 F), the most satisfactory development I've found for this film.

About the thinking

The method of zone-system readings given here, using only zones 3, 5, 6, and 8 for metering, was evolved naturally in the course of my Tri-X photography. I simply noticed that these were the only readings I was using, because I didn't need any others.

The principle applies beautifully to Panatomic-X, though it's very different in behavior from Tri-X. Panatomic has a much shorter, lower "toe" to its curve,

so underexposure does not flatten out the contrast of dark tones as much as with Tri-X; and as you'd expect with a slow, fine-grained film, it has far less latitude for overexposure than Tri-X. Indeed, it has less latitude altogether: I think of Tri-X as producing optimum quality at any rating between E.I. 200 and E.I. 50; but Panatomic does its best at E.I. 16 and E.I. 8—only half the range. That is the price of high resolution and fine grain, and well worth it in pictures that call for sharper texture and detail than you can get with fast film.

The pictures

For the rest, look at the illustrations and read their captions. Halftone printing is not likely to show some differences in tone and contrast that are both clear and vital when you look attentively at photographic prints: that can't be helped. So the captions may tell you things that the pictures on these pages don't show. Believe the captions.

To see what happens with real prints, shoot, develop, and print your own tests. When you do this, do not assume that your results should match mine. There are too many variable factors in photography for that to be likely. Trust your findings more than you trust mine.

Practice seldom fits theory exactly. That's all right. We don't need absolute values, we need good working approximations tempered with sensitivity and kept valid by an uncompromising sense of quality. Well, only reasonably compromising.



came out from New York the night before. I wanted to get oriented and be in a position to get the people as the day unfolded." Starting with breakfast, Simon shared all the day's events with the Sander family. He went riding with Leslie; he photographed Casilda on the tennis court, in midair about to land on a trampoline and in her bedroom, practicing the seductive poses of an adolescent. He found Richard taking it easy—talking with a friend on the telephone and napping, stretched out on a couch. Cintra and Whitney are pictured together in an affectionate, relaxed pose that their mother warmly describes as "smooching." Simon followed the mother into the garden and surprised the father by unexpectedly photographing him on his return from work. At the day's end, Simon had exposed over 25 rolls of film. From these rolls (numbering approximately 900 frames), the Sander family would finally choose nearly 35 images.

"Agony" was the only word Mrs. Sander could conjure up to describe the slow process of editing the 900 frames from the contact sheets down to a reasonable, affordable number. The process was made even more torturous by the fact that it was thoroughly and painstakingly democratic. Everyone had their say, but final decisions were made only in the form of the veto power. This veto power could only be exercised by an individual if he or she was the subject of the photograph in question. Thus the mother lost many of her favorite shots to the decisions of her children.

In the Sander collection, the strongest images are those that relate directly to the family as a unified and unifying group. The group portrait of the five children seated around their mother emanates a warmth that testifies to her efforts to solidify two separate families. Another striking photograph is a double portrait that speaks of the family bond, but through the no-longer-to-be-bridged gap of three generations' time. In 1914, Mrs. Sander's mother, née Cintra Huber, sat for the portrait painter Julian Story. "He was like Sargent, but not as well-known. He painted in the Grand English style. After all, in those days, there was no other way to be painted," she adds with a smile. "My mother was 14 in the painting. She was very pretty and she knew it."

While Simon was photographing in the living room, she suggested he photograph her older daughter, also

named Cintra, beneath the alluring childhood portrait of her mother. Mrs. Sander even went so far as to rearrange two tiny statuettes on the ledge beneath the painting, thereby adding a motif that echoed the two faces of the primary subjects of the portrait. The photograph that resulted is both delicate and baroque in detail, and striking and romantic in its imagery.

Looking back at that particular photograph with satisfaction, Simon says it was an unconscious decision on his part to photograph Cintra under the canvas of her grandmother. "When I'm working, my mind is like a three-ring circus. I don't always hear what is being said around me—although sometimes I might end up doing just what has been suggested."

Since the shooting of the Day in the Life of the Sander family, memorable events in the lives of the five highly individual and active children have necessitated the addition of new photographs by other photographers to the dining room walls. Nevertheless, Simon's working style still dominates the room. It is one of warmth and joyful affirmation in each family member's unique contribution and personality. Of the four or five photographers now represented, Simon is considered by the family as the one photographer whose work is both the most intellectual and the most penetrating.

Simon attributes his success with the Sander family to their "exuberant life force and their unselfconscious generosity." The mother agrees that the subjects' generosity is a necessary element in any successful human transaction. She reflects on her own experience as an art therapist in so far as it relates to reaching out to mental patients. When she sits with them to sketch their portraits, "they open up to me, I can touch them and get away with it. I am an artist and they know I'll be giving them something special in return—their own portrait."

It is the same with photography. "I do want the photographer to see the best side of me. Even though you, the photographer," she says, gesturing to Simon, "may take my photograph, you are giving me something—even if I am paying for it. I must give myself to you to be photographed."

The Augustus family

The next family I met gave themselves entirely and unstintingly to Simon to be photographed. In fact, both parties were so generous that Mr. Augustus' first

recollection of the event is crystallized in one image: "I can see Peter sitting here around the dinner table days on end."

Simon worked nearly nine months on his family album and special project for the Augustus family (although this is not their real name, it is chosen deliberately for the striking resemblance the father bears to an early line of Roman emperors). The Augustus family lives on a top floor of a modern Manhattan luxury highrise. From their living room windows, one sees a breathtaking view of Manhattan to its east, west, and southern boundaries. Mr. Augustus is a collector of art, and the paintings and sculptures he has carefully chosen—and, on occasion, commissioned—dominate and animate the apartment. Between the detailed view out of the window, the canvases on the walls, and the items around the room, I could not rest my eyes. Noticing my surprise, he smiled contentedly, saying, "It is like an ivory tower up here."

Before the subject of my assignment was even brought up, we were launched into a discussion on the comparative "compelling" powers of painting and photography. Mr. Augustus was drawn to oil paintings, especially large Spanish canvases. He expressed an interest in contemporary photography, especially the work of André Kertész and Duane Michals. He also recounted buying several fine prints by Bill Brandt and Lucien Clergue a number of years ago. "I put them on the wall, but then took them down. They paled next to the paintings." Clearly, he had a closer affinity to large canvases of subdued colors. I was interested to see how he would respond to Simon's work.

Simon prepared four albums for the Augustus family and one special nine-month endeavor, culminating in a product that combined sculpture and photography. The photographs in the albums are treated as special treasures. "They are a rhapsody of joy of our family," says Mr. Augustus. But the special project is a source of constant amazement to the entire family. In the spring of 1971, Simon and Augustus had agreed on a working budget with only one guarantee: in the end there would be a finished product. "I wanted to end up with something that was a combination of art and photography," explains Augustus. "Neither he nor I knew what that would be."

"We gave him complete freedom. We respected his creative and artistic integrity. 'You satisfy yourself in these photographs' was all I told him to do."

Mrs. Augustus recalls the many days Simon spent with the family. He joined them on strolls into Central Park, played with the children—then aged one and two-and-a-half—in the early morning and joined the family at dinner each night. "At the time, we never thought the photographs would become so valuable. We thought it was just another day in the park."

In order to complete the special project, Simon collaborated with sculptor Linda Brenner to create a work they termed "documentary sculpture." This was described by the artists as "81 black-and-white photographs . . . derived from a month-long study of a New York art collector, his family and their environment . . . projected at brief intervals onto three pieces of white hydrastone sculpture (also representative of the subject) which rest on a turntable base of clear Plexiglas and stainless steel." The reaction of one critic, writing for the Philadelphia *Sunday Bulletin*, was overwhelmingly enthusiastic. "Wow!" he wrote, "When the slides are turned on, it's like glimpsing what's going on inside the collector's head, almost a visual interpretation of his brainwaves. The two-dimensional slides and the three-dimensional sculptures combine, fragment, and take on unusual images on three and four different levels . . . It is a most viable and gripping combination of two art forms that leaves the viewer entranced."

Augustus admits that the sculpture often galvanizes the attention of his visitors and guests. "We are so trained to look at projected images that at a party everyone immediately comes over to watch and enjoy the fragmentation of images. It has a hallucinatory effect, the kind of stuff dreams are made of," he explains.

Because the sculpture can be manipulated on its swivel base by the viewer, the projected images never appear the same. The face of his son may be spread over a convex surface, the head of the father may appear split down the middle by two sculpted forms. A photograph of the view outside the window of the city at night when projected onto the bust of Augustus suggests the inner brain waves at work. "Looking at this recalls for me the first time I saw a cubist painting . . . (it's) a whole new way of seeing," volunteers the subject and owner of the portrait. "It is completely beyond imagination. It is as if it had its own vision of you."

Three years ago, he commissioned a

second artist to create an update on Simon's family portrait in another medium. The Bulgarian-born painter, Georgi Daskaloff, worked with the family for one year in order to complete an 18-foot family portrait, composed of seven independent sections. Although the painter focused his attention on the individuals, he did choose several elements in the apartment to incorporate into his drawings. Many of these same elements—a plant, a sculpture, were chosen by Simon to further portray the Augustus family. Likenesses of the Brenner-Simon documentary sculpture also appear in Daskaloff's drawings, offering the viewer an interesting twist and revealing the importance of this work of art within the family fabric.

The Feldman family

The Feldman family was the subject of an article in the *New York Times*, published on December 13, 1973. Writer Nadine Brosan sounded an optimistic note on the subject of Simon's portraiture, "If the family is trembling on the brink of extinction, as the doomsayers are predicting, there is no evidence of it in the work of Peter Simon." Indeed, one might be emboldened to put that argument to rest after seeing Simon's photos of the Feldman family.

In the fall of 1973, Simon visited the Feldmans in their home in Yorktown Heights, a community north of New York City, where they live on a "semi-farm." As Mrs. Feldman explains, "We have all the things on a farm but it doesn't work." While it provides a picturesque backdrop for daily living, the actual work of caring for the sheep, lambs, and ducks is undertaken by a couple living on the land. When Simon photographed the Feldman children—Page, age seven, Michael, age six, and Cera, age four—tending the sheep in their backyard, the result was more picturesque than real. But it made for stunning photographs. Many of the Feldman photographs are color prints, rather than the black-and-white photographs taken of the other families. The mother recalls that Simon at first balked at the idea of photographing in color, but soon acquiesced. Showing me a photograph of blond, rosy-cheeked Page playing in the fall foliage, she explains, "Page has such wonderful color. I couldn't see putting this child in black and white." The Feldmans also tried to sit for a formal, dress-up family picture, but the result was far from

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satisfactory, principally because it contradicted the basic Simon method. As the photographer explains in the *New York Times* article, "I downplay what I'm doing and shoot a great number of pictures to deglamorize the project. Often the best photographs arise totally unexpectedly."

The Steinhardt family

The Steinhardt family lives in a duplex apartment atop a 16-story apartment building overlooking Central Park. In the winter of 1972, Simon came to their apartment to prepare a photo album that would later be titled "Judy, Michael, David and Daniel, December 1972." Simon also prepared a wall display of large format, framed photographs, a project both he and the family still admire. It was Mrs. Steinhardt's idea to display these photographs along the walls of the staircase. "We pass them everyday. They are family pictures and should be more intimate, something that only the family and our special friends will see when they come to visit us. Sometimes the kids will sit on the steps and just look at them." Nothing bothers her more, she adds later, than coming into someone's home and being forced to admire pictures of their family. The placement of the photographs provides a vehicle of display that is both discreet, personal, and highly visible to the family members, she says. "The arrangements of these photographs is also as good as the photographs themselves."

Simon skillfully managed to capture the personality and roles of each member of the family. "Peter was so good. You didn't know he was around. He is an interesting person. The kids weren't aware of him. I was, but I really didn't mind him." Mrs. Steinhardt, who is now also the mother of a little girl named Sarah, confesses that she is self-conscious in front of any photographer, professional or amateur. Yet Simon was able to capture her off guard, as she tried to keep her hands on both Daniel, then 18 months as he scaled a bookshelf, and David, then four years old. This single image suggests a humorous homage to the demanding job of a young mother. The father, a man who works in a high-pressure job managing a hedge fund, is seen in a relaxed, pensive mood with his two sons.

When Mrs. Steinhardt brought out the photo album, David and Daniel both pounced on it and roared with laughter as they looked through the pictures. Daniel's favorite picture shows his father

flinging him up in the air, ready to catch him on the rebound. The photograph of his brother's head, seen in profile and dominating the foreground of the picture, strikes him as funny. Both brothers get their biggest laugh from a photograph of their father tickling their mother in the kitchen. Life in the Steinhardt household must be fun.

How unique is Peter Simon's approach to photographing the family? That is difficult to answer. Most people who have commissioned him to create a record of their family agree that he is keenly sensitive to the undercurrents in their lives. He is a talented photographer who executes any project with great attention to detail and brings to every project an understanding of human behavior and interaction.



MARKET VALUE

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number of pages as *People* does with six—Dominis, an assistant picture editor, two researchers, a picture desk (assignments, pictures, everything that comes in to the department comes through here), and an assistant picture desk.

Dominis assigns the photographers and edits the pictures. They may print 10 to 15 per story. The managing editor decides which ones make it into the layout. "Picture editing would take about two hours a day if it weren't for the phones. . . . I've never been an executive before . . . people calling and talking . . . signing checks and paying bills. . . . The job of handling photographers and getting good pictures, which is important, is what there's so little time left for."

A story begins when the person being interviewed has something to say. Then come the pictures. Dominis feels one can't do a story with great photographs and no peg. He prefers to tell a whole general story by one person. You don't have to show everyone in the country who's out of work for instance; you can pick one and really get into that person. Dominis thinks in terms of picture stories. You have to have layouts, not just pictures. It's very hard work. Sometimes it seems simple, but it's hard and it's tough.

A good portfolio for *People* obviously should be of people. It usually works best if the subjects are aware of the photographer, because that's the way an assignment would be. "We're not

showing drunks on the Bowery or barn doors or white lines on a road in New Mexico or snapshots of people in Israel or Arabia or Japan. I don't need those home movies. I'd like to see a good, planned, lit portrait, some candids inside a house so I know the people know (the photographer is there). Yet the candid quality is good in an illustration-type photograph—a picture that's constructed by the photographer to illustrate a point. I prefer black-and-white because they use that, but I can judge color. I like a little action stuff, sports, fast moving. Lighting. Something that has to be lit in a natural way. I don't want any flash on the camera with the background all gone black. Then I can't tell if they're in a room or a coal mine. I'd like to see what's there . . . This is not a documentary magazine. A lot of the people we photograph aren't doing anything. We have to put them in their places and light them or use available light. We try to make a picture that sums up the story about the guy."

What do you think makes a good picture editor, I asked him as he edited pictures. It's hard to find the right person, he answered, because I think it's better if he was a photographer. We've never had photographers as picture editors. Usually they come up through the writing ranks. They knew about stories and learned about pictures. Some really loved pictures and were very good. Some didn't understand photographers. But how many photographers would rather sit behind a desk? Most are too egocentric to do it. I don't know why I don't feel that way. It just doesn't bother me not to be shooting, and looking at other people's stuff. I think it's rare to find somebody who has that—is a good photographer and is not thinking about their own work all the time. A good photographer has to think about his work all the time. It isn't natural not to, for any creative field. . . . I work hard here, but there's nothing harder than having to create something good. I have a lot of respect for good photographers. What about the bad ones? Don't like 'em."

No, he answered to a question about noticeable trends. Too many varieties in which pictures are used. Good newspapers with enlightened editors realize that the modern public is visually oriented . . . the real good photojournalism is in these papers. The photographers shoot black-and-white every day, print, develop, build pictures out of dull situations, document problems in communities, etc. "I think

it's where photojournalism is . . . I think that the photographer who's going to be successful is the person who is really a super technician and has some talent and wants to work hard. There are hardly any of 'em."

Dominis keeps a book of photographers' names and phone numbers, listed geographically. Sometimes he may need a picture right away and not have time to send somebody. While I was there he looked through two out-of-town portfolios; he put both of them down in his book for that reason. If the photographers had been in New York, they probably wouldn't have made it. There seems to be a very heavy concentration of good professional photographers in New York; more so than the rest of the country.

As a *Life* photographer since 1950, John Dominis has covered many aspects and areas of life on this world. Interested in editing, he joined the executive suite in 1974 to picture-edit *People*.

Berni Schoenfield, Picture Editor, *MD Medical Newsmagazine*. This is a magazine for doctors, a sophisticated audience with a broad range of interests. Although the emphasis is on medicine, the subject matter varies tremendously.

"The nature of our coverage," Schoenfield begins, "is generally a broad historical coverage. We cover the subject and the history of it. There is generally little that is current photography. Much of our research and need comes from historical background. I use picture agencies for the major part of the material, but wherever possible I like to deal with photographers and rely heavily on what people do. . . . I look for people who have interests in areas, not photographers with specialties. They can give me the most personal pictures, the most insightful. . . . I like that personal quality from a photographer. I believe this is what makes the difference in good from bad. . . . when he has captured his feeling about a subject, that will be what the picture people will respond to. He has captured that rare quality—the translation of a feeling.

"One of the qualities I think that is sometimes difficult for a photographer to understand in dealing with picture editors is that a picture editor has a responsibility to present a story. . . . as concisely and directly as possible. . . . Pictures become the transitions in telling a story. Not every photograph that is used is a masterpiece or the best that you have. . . . Photographers on a

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magazine are an integral part of a journalism, photojournalism, today's journalism. They are part of a whole, not the entity in themselves.

"This means that today's photographer who wants to make his living in the publishing field has to be aware of the end use of his product, more so than ever before. Years ago the photographer was a technologist to get exposure and subject reasonably clearly and those photographs would generally accompany a long text and be some contact point with the reader to reality. Today we expect the photographs to make major points to the story. The pictures have to be more articulate in terms of a total story.

"When someone sets out to do a picture story, he frequently counts on his own instincts to react, just by being in the situation. This, in my opinion, is the minimum entry point. The fact that photography is an artistic medium does not free the photographer of the responsibility of articulating a story. . . . Very few have thought out and planned what is a story. They know that there are times when pictures are the links, the ands and the buts, not the great metaphors. The strong photos are the metaphors, the weaker ones the links. You can't maintain the high pitch; the sentence without the ands and the buts wouldn't be a sentence. The sentences become an essay, and the essay includes this whole literary concept.

"We don't assign a great many stories and this is unfortunate. It's something that will probably improve with the economy. . . . I do believe in photographers showing me what they're doing. I tend to think that having taken a great deal from a career in photography and journalism, I'm at a stage where I have a few things to give back. I like to discuss stories with photographers, the work they're doing. . . . today's young photographers have a kind of commitment to photography that is much more personal, much more related to the realities of today's life than ever before. And I believe that this type of personal commitment is something for which journalism hungers.

"Photographers can call at any time; I have an open door policy. If I have the time to see them, I see them; or I make the time to see them. I see them to know what they have. . . . I want to meet the person, to know the person as well as the work. . . . This personal relationship of being with the photographer and his portfolio and discussions are a significant part in making a decision as

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to what photographer will fit what kind of an assignment, how they will relate to the people . . . getting the right fish in the right pond. It's unfair to the magazine and the photographer to assign him to that which he is not suited for. If you want to contribute toward anybody's development, you do it by finding out what they feel, to what they relate, then give them an opportunity to feel something about a subject and to relate. Through this course, you certainly get the best pictures.

"A picture editor is a visual journalist. As such it is his job to contribute the visual journalism to a magazine. In order to do this, he obviously must be a person of taste. He must be capable of reading photographs as articulately as reading sentences. He must have this insightful understanding of the translations of feelings through photographs.

"A picture editor must also have a journalistic judgment to know what can be said visually, what should be said visually, what can be better said verbally, and should have some understanding of the impact with which the stories should be made. In *MD*, that of necessity includes a judgment about whether pictures, drawings, artwork, sometimes sculpture, or other visual expressions are required to tell the story. The selection of each visual image is done with a view toward the total journalistic presentation of the story.

"That same picture editor should have a relatively artistic acquaintanceship, should be knowledgeable in terms of our total society. And, like a photographer, he should be aware that he carries a tripartite set of responsibilities: to do the job for which he's paid to satisfy his customer, to maintain his own integrity, and to present photographer and subject in their most honest light. Because photography is such a believable medium, a great deal of distortion can be propagated through it.

"He has to be significantly aware of what the magazine is trying to say, the story, and then to do the best he knows how to get it across, which may mean exercising all of these judgments in an objective but not necessarily impersonal fashion. It's a very delicate marriage between knowledge, insight, journalistic experience, visual taste, personal integrity, and job obligation. This is something that each person has to find for himself. But this is an area of concern that should allow a picture editor to contribute in a way to everybody's advantage in doing the job

that he has to do.

"The knowledge that makes for competence of sources and materials is exactly that, the technical competences . . . to be aware of what makes his stockpile of sources, but at the same time he should be very much aware of what individual artists or photographers or writers are doing so that he doesn't fall into the kind of a hack pattern of relying on basic stock or that which will simply cover the assignment. I like to strive for what is the best way to do something, to seek out all possible sources; and I generally like to do this right up to my deadline, to try to improve how to put across the things I would like to say.

"When I was a photographer, I used to say to myself, 'Grow to be as much of a person as you can, because what you are as a person will reflect in your pictures'. To be as broad and understanding and knowledgeable, competent, capable, proficient in as many areas as you can . . . in terms of your craft and society. It is that total person that will be reflected in the work that you do. I still tell that to photographers. I also tell it to myself as an editor. I think it is everything that you are that makes you as good an editor as you can be. And I don't think you've ever arrived. You're always on the way to getting there.

"The level of acceptance that you have is relatively unimportant. Having achieved has little to do with what you have yet to achieve, only that it is the foundation on which you can build further. . . . That process of thinking that you are there is one of the greatest stumbling blocks . . . has stopped some very good people dead in their tracks. When any person recognizes that he has more potential, he is then a culturally interested person and therefore will be interesting."

What about trends? I asked. "No doubt the economic squeeze is going to force trends in the magazine that are not necessarily happy ones. Few can afford the luxury of sending photographers on the great assignments of the '50s and '60s. This, in terms of publications, is going to mean that photographers will be increasingly called upon to arrange their own trips and pick up assignments in the areas they're traveling . . . a different organization of their business.

"The converse side of this trend is that there is more use of photography than ever . . . more industrial applications, more advertising, public relations, informational areas.

"Probably the greatest challenge to photographers is that it gives them an opportunity to learn so damned much about life. As the translators for a general public, they can come in contact with more areas of our technology, our social changes, make friends with people in more diverse fields, so I think their growth is assured. This means that the photographer is no longer an artist and craftsman with a camera. He has to have a marketing awareness to seek out his markets. He must develop many broader interests than ever before so he can handle photography with insight and understand many, many more complex things than ever before.

"There is also phenomenal broadening of the areas of potential speculation in photography because of the number of technical visual needs. Today there are so many needs for photographic ability. There are more of the real people involved in many diverse technologies who are relying more and more on the visual to assist and explain their operations. There's a major change.

"We've seen the last of the star system. There are more people who buy photography today who have knowledge and have sophisticated taste because they've been exposed to visual things longer. There's no end to the expansion of where the market is."

Berni Schoenfeld began *writing* for magazines when he was 14 to pay for his education—as an aeronautical engineer. Writing and artwork carried him through college. After the war, he didn't want to make killing machines so slipped back into journalism, a natural combination of interest and background. Editing an aviation magazine, he also had to buy photography. His dissatisfaction led him also to buying his first camera. He learned to be a photographer, worked for *The New York Times*, then *Life* until 1953. He free-lanced internationally for all the major magazines, was very successful, then came "inside" to put his knowledge to work at *Business Week* as picture editor and layout director in '68. He joined *MD* in late 1975.

"I've always believed in life," he says, "in doing rather than being done to. Life is just a big mirror and everything that you throw into it reflects back. . . . In terms of picture editing, in reality you give your whole personality in what you do. . . . There is so much positive in life to which we aspire. You have wonderful opportunities for as long as you live. That's part of never having arrived." 

35-MM PHOTOGRAPHY

abstract, if only because they exist in only two dimensions. And surely we've all seen highly abstract color images—the work of Pete Turner and Mitchell Funk comes immediately to mind. So what profit is there in debating which is “abstracter”?

Second, and more important, the flaw in labeling color “literal” is that the very challenge of the medium becomes defined as a problem. Sure, it's easy to get swamped by the “facts” in color. All too often, the unruly spectrum “does us in”—the challenge is to tame and harness it. This may be tough, but surely it's not impossible.

Color is probably the more *demanding* medium. Is it then fair to brand it “literal”—a contemptuous badge traditionally thrust upon *all* photography by its aesthetic enemies?

On the other hand, a harder medium is not necessarily a better one. Indeed, I think that color's “mainline to the senses” limits it in important ways.

But here black-and-white comes to the rescue. It's got just the cerebral punch that color can so easily overwhelm with its immediacy and sensuousness. Black-and-white demands more of the *imagination*—of both photographer and viewer—and it's this, not some supposed “abstraction,” that constitutes black-and-white's charm and power.

While I could continue to regale you with further insights, I'll quit while I'm hopefully still ahead. Do you perhaps disagree with some of my pearls of wisdom? Think I'm barking up the wrong trees? I certainly won't be offended if you do. What I've been talking about is inevitably so personal and speculative that I frankly hope you'll dispute at least some of it.

The important thing is for you to seek answers for yourself. If you enjoy your quest half as much as I have, I'm sure you'll agree that these oft-whisked-over problems reward more careful scrutiny. 📷



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COLOR PRINTER'S BIBLE

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made your print with a 10C + 15Y pack and found that one of your four test images had the right density, but looked as though it were .20 too yellow. You have to exit the *IS THE PROBLEM COLOR IN THE PACK?* decision box along the YES arrow to the instruction box that tells you to *SUBTRACT THE PROBLEM COLOR FROM THE FILTER PACK*. But since you only have .15 yellow in the pack and the needed correction is .20 yellow, you find that you have to exit from the next decision box, which asks, *IS IT NECESSARY TO REDUCE THE PROBLEM COLOR TO ZERO?*, along the YES arrow. You are then confronted by another decision box, which asks, *IS THE NEEDED CORRECTION COMPLETE?* The answer to that, of course, is no, and following the NO arrow you reach an instruction box that tells you to *ADD EQUAL AMOUNTS OF BOTH OTHER SUBTRACTIVE PRIMARIES TO THE FILTER PACK*. Completing the needed correction calls for another .05 magenta and .05 cyan to be added to make the new printing pack .15C + .05M.

It is interesting to note that the printing exposure time correction called for by this pack change would be -20 percent for the yellow filters subtracted (-10 percent for each filter removed from the pack), +25 percent for the magenta filter added, and +10 percent for the cyan filter added, for a net change of +15 percent of the original exposure time.

If you find that your print exhibits a color cast resembling one of three additive primary colors, the rules for filter pack corrections differ somewhat. Once you determine what the problem color is, the first decision box you encounter asks you, *IS PROBLEM COLOR'S COMPLEMENTARY IN THE PACK?* Suppose you had printed with a .10C + .10Y pack and found that your print was .20 too blue. You would leave the decision box along the YES line to enter an instruction box telling you to *ADD THE PROBLEM COLOR'S COMPLEMENTARY TO THE FILTER PACK*. Your new pack then would be 10C + 30Y, and you would have to increase your printing time by 10 percent to accommodate the change.

If you had printed with a .10C + .20Y pack, and found that your print was .40 too green, you would have to leave the *IS THE PROBLEM COLOR'S COMPLEMENTARY IN THE PACK?*

along the NO line to enter another decision box asking, *ARE BOTH OTHER SUBTRACTIVE PRIMARIES IN THE PACK?* You would leave this box by way of the YES line to an instruction box telling you to *REMOVE EQUAL AMOUNTS OF BOTH OTHER SUBTRACTIVE PRIMARIES FROM THE FILTER PACK*. All you can get out of this particular pack in equal amounts is .10 cyan and .10 yellow so that when you leave the next decision box, which asks, *IS IT NECESSARY TO REDUCE ONE OR BOTH COLORS TO ZERO?*, you would exit along the YES arrow to be asked, *IS THE NEEDED CORRECTION COMPLETE?* The answer to that is obviously no, and following the NO arrow brings you to an instruction box that tells you to *ADD THE PROBLEM COLOR'S COMPLEMENTARY TO THE FILTER PACK*. You complete the needed correction by adding .30 magenta to the pack, which makes your new printing filter pack 10Y + 30M. The exposure correction called for is -25 percent for the .10 cyan filter pulled, -10 percent for the .10 yellow filter pulled, +25 percent for a .20 magenta filter added, and another 25 percent for a .10 magenta filter added to bring the pack to the requisite .30 magenta density. The net change in printing exposure time is plus 15 percent of exposure time.

I'm sure that you are as dizzy from going around the evaluation chart's loops as I am, and since we have followed almost every possible path, it is time to move on to greater things. I mentioned earlier in this section that you would need more information to be able to go from the small 3x4½-inch test image size to greater magnifications. You will find a simple method for doing so in the *Magnification and Exposure Time* section, below.

Magnification and exposure time

If you go into your darkroom, turn on your enlarger lamp, open the lens diaphragm to its widest setting, and focus the machine to get an unfiltered image of your empty 35-mm negative carrier, which measures 3½x5¼ inches on the baseboard, that little 18⅜-square-inch rectangle of light is going to be rather bright. Now, if you change the enlarger's head height so that the focused image on the baseboard of the empty carrier is 8x12 inches, but leave the lens opening just as it was, you will be able to see that the 96-square-inch rectangle of light on the baseboard is considerably dimmer than the 18⅜-square-inch one was. There

should really be no mystery about why this should be so. Just consider that the same enlarger lamp has its light output concentrated on $18\frac{3}{8}$ square inches in the first case, and then has that identical amount of light output spread out over 96 square inches in the second. The amount of light available from the lamp doesn't change, it just has to be spread a lot more thinly to cover 96 square inches than it does to cover $18\frac{3}{8}$ square inches. The thinner the light is spread, the dimmer it appears.

Now, if you can see that the light intensity decreases as you raise the enlarger's head height to spread the light out more, it should come as no shock to you to learn that you will have to give more exposure time to a print made at 8x than one made at $3\frac{1}{2}x$.

You can compare these two different printing exposures under the enlarger's lens to filling up two different-size containers with water from a garden hose. If the hose nozzle is left at the same setting, maintaining a constant water flow, it will obviously take more time to fill a gallon container than it will a quart bottle. So it is with the enlarger. If you have a fixed amount of light coming from the enlarger lens it will take longer for that light to expose 96 square inches than it will to expose $18\frac{3}{8}$ square inches, both to the same level of exposure.

It isn't difficult to determine how much of a time increase is required for any particular change in magnification. All it will take is a pencil and paper and a moment or two. However, those who have electronic pocket calculators will be delighted to learn that, here at last, is something you can use the silly machine for without feeling like a fool.

You determine the change in printing exposure time required for a change in enlarger head height, either up or down, by using the formula:

$$T_2 = T_1 \cdot \frac{(X_2)^2}{(X_1)^2}$$

T_2 = The new printing exposure time, for the same lens opening as was used for the properly exposed print.

T_1 = The exposure time used to make the properly exposed print.

X_2 = The magnification used for the new print.

X_1 = The magnification used for the properly exposed print.

In case you don't know what the figure 2 is doing at the top of the right side of the parentheses surrounding the X s, it simply means that the number inside the parenthesis is to be squared. To square

a number, multiply it by itself.

For example $(9)^2 = 9 \times 9 = 81$. That's all there is to it.

Now let's look at a few practical examples likely to occur if you decide to make a larger print of the standard negative or slide you have been working with. Up until now you have worked with a focused image size of $3\frac{1}{2} \times 5\frac{1}{4}$ inches measured on the enlarger's baseboard. As I explained earlier, because a 35-mm negative carrier has an opening of approximately $1 \times 1\frac{1}{2}$ inches, the magnification you have been using is equal to approximately $3\frac{1}{2}x$. Now you know the value of X_1 in the equation. Let's assume that you have decided to fill up an 8x10 sheet of printing paper with the image. The first thing to do is set your easel for an 8x10-inch print, less whatever border you intend to use. Then with your negative or slide in the enlarger, raise the head height and focus the image until you get the cropping and composition you want within the easel's borders. Since you have painted your easel black, you will have to use a focusing sheet on the easel in order to be able to see what you are doing. Once you have the image sized and accurately focused, lock the enlarger's head and lens board, if your enlarger offers provisions to do so, and remove your easel from the enlarger's baseboard. Use a ruler to measure the short dimension of the image being projected on the baseboard. Let's say in this case it is $8\frac{3}{4}$ inches. Turn off the enlarger lamp, turn on the darkroom lights, get your pencil and paper or your calculator, and determine what exposure time is needed to make the larger print. One more piece of information is necessary, though, before you can begin the calculation. That is the original printing time. Let's say that after three trips through the print evaluation chart, your No. 3 image came out perfectly with an exposure time of 6 seconds through an f/8 lens opening. Now you have all the data you need to calculate your new printing time. You know that T_1 is equal to 6 seconds, X_1 is equal to $3\frac{1}{2}$, and X_2 equals $8\frac{3}{4}$. Plug all of these values into our simple formula:

$$T_2 = 6 \cdot \frac{(8.75)^2}{(3.5)^2}$$

and calculate to determine that

$$T_2 = 6 \cdot \frac{8.75 \cdot 8.75}{3.5 \cdot 3.5} = 6 \cdot \frac{76.56}{12.25} = 37.5$$

This simple formula works

satisfactorily for situations in which the same lens opening will be maintained for the second exposure and where the ratio of X_2 to X_1 does not exceed about three (for example, if X_1 is 4x, then this simple formula will be satisfactory to use with an X_2 of up to 12x, etc.).

Beyond this size ratio, the effects of reciprocity (non-linear response of the paper's emulsion to varying levels of light intensity) will introduce an unacceptably high margin of error into this simple calculation. To calculate new exposure times for gross size changes, you will have to use the Kodak Color-Printing Computer (the use of the device for this purpose is covered elsewhere in the series).

Before leaving this subject, I do want to point out one additional pitfall. Let's assume you have made a test print at $3\frac{1}{2}x$ and you want to make a 10x enlargement. If your initial printing time at f/11 was 13 seconds, your new printing time, according to the formula, will be 106 seconds. That is an awfully long exposure and it is one that includes an error of about 12 percent (an exposure of about 119 seconds is called for to account for reciprocity), which is easily tolerable. But if the exposure time is reduced by the simple old black-and-white-darkroom rule of thumb that says that for each stop you open up the lens, you can decrease the exposure time by one-half, you will find that if you go much further than one stop with it, you will pick up even greater and, therefore, unacceptable exposure time errors. For example, if you choose to reduce the printing time from 106 seconds at f/11 to 26.5 seconds at f/5.6, by that handy rule of thumb you would introduce an exposure error of about 26 percent (the reciprocity-adjusted exposure called for at f/5.6 is 21 seconds) and that level of exposure error will show up in a print. However if you do limit the use of this old rule of thumb to one stop, you will remain within an acceptable margin of exposure time error. In this case, rule of thumb calls for an exposure of 53 seconds at f/8, while the reciprocity-compensated exposure time called for is 50.5 seconds (in this instance, the error is actually reduced from 12 percent to only 5 percent). This special section is the second in a series of articles on the craft of color printing that will appear in 35-MM PHOTOGRAPHY. The Color Printer's Bible will be published in book form by Amphoto, Garden City, N.Y. All material, copyright © 1976 by Bob Nadler.

conversation, and felt Smith's very survival was at stake. It had required many, many telephone calls to people in photography before Hughes finally found someone willing and able to help: Schiller.

Feeling Smith too ill to travel alone, Schiller called upon an old friend, Paul Fusco, to go to Japan and pick Smith up. When Schiller learned Fusco was on assignment in Southern California and his wife unable to reach him, Schiller used Fusco's automobile license number to report the car "stolen" to the police in the area! The next morning, an exhausted Fusco was on the plane to Tokyo with Schiller's instructions to, "Just go get Smith and bill me later."

A year and a half earlier, Fusco had visited Smith in Japan and noted, "He looked fantastic." The Smith he now found in Tokyo "looked terrible—he really looked awful," recalls Fusco. Smith had not recovered from a beating he had received while photographing in Minamata. Smith had gone to the small village to record the mercury poisoning of people caused by a chemical company's dumping of its waste into the bay. The company, Chisso, had set company goons on Smith and some of the victims themselves. Smith had been smashed to the ground headfirst, and suffered severely damaged muscles and nerves in his neck. Since the beating, his condition had grown worse. The Smith that Fusco found in Tokyo was blind in one eye and unable to focus with the other. He was obviously in terrible pain. He could not walk without assistance. The eyes that had seen and photographed such classics as *Spanish Village* and *Country Doctor* were now lifeless and gray. Fusco remembers the ordeal of the 18-hour trip back . . . "I just sorta sat there being a friend and a nursemaid. Four or five times Gene's pain got so bad he would start crying and bang his head against the seat, the pain pills having no effect." Back in the States, Smith was to begin a slow recovery and look for a publisher. At first Schiller would not talk to Smith. People were saying that Schiller had only helped Smith in order to get a book. When the two finally met, there emerged a deep respect between them.

"I liked him. He was very shrewd," Smith remembers of the first meeting. Schiller had been quick to say, "I don't want to add to the legend that I brought Gene Smith back here when he was

almost blind for the purpose of getting a book. If we do a book together, I want nothing from it." At some point in the time that followed the meeting, Smith must have realized he might never finish and publish the book without Schiller. And Schiller, looking for the kind of respect the confessions of Jack Ruby and Susan Atkins and the exploitation of Marilyn could not give him, needed Smith and the humanist cause of Minamata. It was a marriage of necessity made not in heaven but in the cold reality of the situation. "I thought he was about as interested in the book as I was," Smith recalls, "and I will always cooperate with a person like that. If I had felt he was insincere or didn't know what he was doing, there would have been terrible explosions." There were no explosions as Smith and his wife, Aileen, were moved into an apartment 20 blocks from Schiller in Los Angeles. All calls to the Smiths went through Schiller. No one was to know where Smith was or to have his phone number. It was a working environment complete with a darkroom Smith had built and enclosed in plastic to prevent damage to the wall-to-wall carpet and the furniture. The book was ready for the publisher in just over two months. (Some of the preparation had already been done in Japan.) Schiller had managed a \$35,000 advance for Smith and a contract he feels is the best he has ever written. Smith was later told by the publishers that no other book in its history ever got so many good reviews. Smith had smiled and asked why it hadn't been a best-seller. When I saw Smith recently, he commented, "Schiller has a touch of a whirlwind in him. Only a couple of times have I seen him down." I asked what Schiller was like down. "Like everybody else when they are up," was the reply.

Another Schiller story began, not with a telephone call, but at a Hollywood party with Schiller trading stories with Rod Pack, a movie stuntman. When Schiller asked, "What would be the greatest stunt in the world?" Pack thought for a moment, then replied, "Probably jumping out of a plane without a parachute!" "But how could you do that?" asked Schiller.

"By having someone jump out *after* me with an extra chute to hand to me on the way down."

"Do it and I will put you in *Life* magazine!" Schiller replied. After the drinks of the party wore off, the project began to get serious. Practice jumps were made with parachutes using diver's weights to work out the speed of the fall.

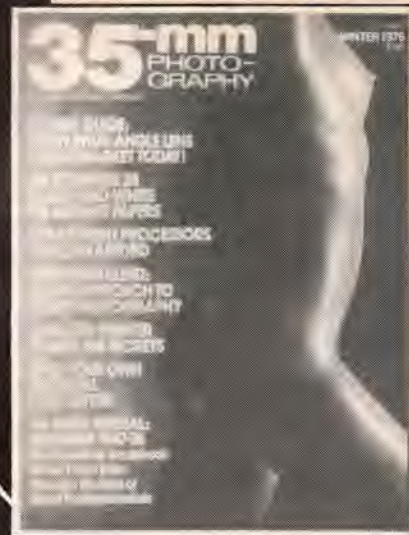
On the day of the stunt, Pack jumped first without a chute followed by two other jumpers, one with the extra chute and the other with a motorized camera mounted on his helmet top. The stunt went smoothly—the exchange of chutes worked and the cameraman fired away recording the whole thing. Once they were on the ground, Schiller took over. He posed the three together shaking hands, congratulating each other on the *world's greatest stunt*. Schiller then furnished the wire services the hand-shaking pictures for free, sent in the Kodachromes of the actual stunt for processing, and went home to await calls.

When the pictures hit the wires, the phone began to ring. Did Schiller have any pictures of the actual stunt? Schiller began to wheel and deal. The most important magazine was *Life* but when Schiller showed Dick Pollard (the picture editor) the perfectly exposed, sharp Kodachromes, Pollard's reaction was, "They look phoney . . . like they were made on a movie set!" Schiller was stunned. Here was *Life* refusing the pictures because they looked too real! Never down for long, Schiller took the high-quality Kodachromes and copied them five or six times on High Speed Ektachrome until they were fuzzy, grainy, and lacked the strong Kodachrome colors. Then he went back to Pollard. "Terrific!" said Pollard, and the story splashed across four pages. From *Life*, the pictures went to magazines all over the world and as the money came in so did the usual complaints of exploitation.

There are many complaints about Schiller, but in trying to track down some of them one often runs into some very strange contradictions. One editor assured me that Norman Goldberg "hated Schiller." But on talking with Goldberg, there was evidence of nothing but respect for the man. "When I first met Larry he said, 'Look, a lot of people will curse me and tell you all kinds of stories about me but no one can ever say I screwed them.' And that proved true in our relationship; in fact, if it hadn't been for Larry's aggressiveness on the Leica motor project, the chances are that it would not have been the financial success it was for me."

Another complaint I heard came from a well-known writer I happened to meet on the street. "When I get a call from Larry Schiller, the first thing I do is check to see if my wallet is gone. If it's gone, I know who took it; if it's still there, I know to keep my hand on it." What the writer

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failed to mention is the fact that he has never had any dealings nor talked over the phone with Schiller!

Neil Leifer, angered by a money dispute over his share of *Muhammad Ali*, went into a rage on a New York street at the mention of Schiller's name, saying, "I can't say anything until I check with my lawyer." But others like Norman Mailer have come back . . . Mailer to do *The Faith of Graffiti* and yet another acceptance to do Sinatra. An editor, who has worked and fought with Schiller before, was asked why he kept going back to Schiller. "Because he is alive, goddammit. He's dynamic and alive. He creates a damn atmosphere of life around him."

Will Hopkins, Schiller's closest associate, feels it's that "atmosphere of life," Schiller's enormous energy itself creating a lot of controversy. "I don't think anything he does has to do with money! He would be cooler about it if he were in it only for the money. His profit margin is too small; he takes too many gambles. I think Larry is attracted to social reform. They are adventures, excitement, challenges."

But one of the most devastating criticisms of Schiller was different. It came from a "close friend" who had written an article on Schiller for *West* magazine in 1966. The editor of *West*, afraid of libel, had called Schiller to suggest either killing the story or changing some of the more blatant descriptions and quotes. At Schiller's request, the article was read over the phone. Schiller, on vacation with his family, was stunned. Part of it, he remembers, described him as a one-eyed rotunda of a man who sits and picks his cuticles as he languishes by his swimming pool. References were made to asthma, talking with food in his mouth, and he was called a charlatan! His first impulse was to kill the story.

"He assumed what people were thinking without bothering to ask," says Schiller. "I objected to his assumptions in the same way someone could object to the way you might use a 21-mm lens to make [that person's] nose look too big. I must admit, though, there was a guy at the Hearst trial that I didn't like, so I used a 19-mm lens exaggerating his hands, and he was somewhat effeminate so I went very close to his face to make his lips look bigger. So I've been guilty of the same thing. Why didn't I threaten to sue or stop the story? Perhaps that was the first step in my maturing when I said to myself that I can't run about like a little crybaby and

say look, I've been injured and it hurts—when every time I lift the camera I am allowing my biased opinion to be reflected through the lens. With the *West* story, I looked in the mirror."

What he saw in the mirror was the not-so-perfect image of a man who had always fought for his own right to say and feel what he wanted. What he also saw was a man in the unique position to kill another person's right to the same practice. The *West* article ran as written with Schiller's blessing.

Dealing at the level Schiller does, with so much money at stake, there's bound to be a number of dead bodies and active suits about the scene. I asked Schiller about competition, checkbook journalism (the paying for stories), and the vast sums of money involved. "Money . . . that's the motivation for the stories being done. That's the animal you prey on to get them done. No question about that. It's the same in TV—a sponsor is interested in getting the best for his dollar. Why did everyone attack Norman Mailer for writing for money? What's so wrong about writing for money? He has to earn a living. What's so wrong about giving a story away for \$10,000 or \$80,000? I don't understand the difference. If it's worth \$80,000, why shouldn't you get it?"

"Should a Susan Atkins make money from telling the story of her bad deeds? That's the controversy and I am the scapegoat. I don't know if it's wrong when the person is paying the penalty as prescribed by law . . . I don't know. I am confused about that part. I am not going to try and cop out. I truly don't know. As far as I am concerned, it's a story. If I don't get the story, Associated Press, United Press, or *Time* will. They are all trying to break the case. So what's the difference? We are all running out to get the story, to be the first one out. Why does A.P. want it? Simply because it sells magazines and newspapers. Just because someone works for A.P. with a weekly salary of \$200 and I free-lance doesn't make him so different from me. We both want the story.

"Susan Atkins wanted to sell her story and I bought it. Why did she sell it to me? I was direct and open. When she asked why I wanted to do her story, I said, 'So I can make some money and you can make some money.' What am I going to say . . . because I believe in your cause . . . I didn't know if I believed in her cause as I hadn't even talked with her. She says, 'Is that all you want to do.' I said, 'yes, and I also want to be the first journalist to do the story. I want to

scoop everybody else.' Besides, the Susan Atkins confession proved a point of law in the court: Does a defendant have a right to speak for herself even though her actions may produce an unfair trial for her co-defendants? That was a point of law that had never been discussed. What I did was motivated by the fact that I felt it was interesting to test that point of law . . . so did the *L.A. Times* in running the story . . . so did Paul Fitzgerald of the defense team. And even though Mr. Bugliosi says some nasty things about me in his best-selling book, *Helter Skelter*, I think he may know the man who came up to my house and delivered pictures of the dead bodies and wanted to know if I would like to *sell* them. The 'city' was scared that they weren't going to get that conviction! But that's all right. Someone's wearing his mask and I mine at various times."

One afternoon I caught Schiller wearing one of his masks. I overheard him on the phone mention a book he had worked on. "About that book," I had said after the conversation. Schiller had paused a moment, then reached over and turned off my tape recorder. "I lied," he said, obviously embarrassed. I let the matter drop.

Later, when I met with Schiller in Los Angeles, we talked about it. "It wasn't that I was unwilling to admit to you what I had done. And you didn't motivate me to tell you that I had lied. I was using the lie to make a point. I felt at that moment I needed some weapon so I embellished or rather 'embroidered'—a word I picked up in a court case—the situation to make my point. You may be entirely correct in stating that I didn't need to embroider. Sometimes I commit myself to something and then have to struggle to obtain it. Ten years ago, I might not have admitted or acknowledged it. Of course, realizing the embellishment might find its way into print, I might have been protecting my flanks by admitting to the lie. You're going to have to decide which it was."

Shel Hershon, a Dallas-based photographer working for *Life* on the John Kennedy assassination, found himself dealing with yet another Schiller mask when he found himself bidding against Schiller, representing the *Sat-evepost*, for a local photographer's photo file on Jack Ruby.

To Shel, it seemed Schiller had an unlimited amount of cash to buy off anything he wanted. This side is, of course, exactly what Schiller wanted everyone to think. At the time, Schiller

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19—"Better Lenses Mean Better Photographs." A brochure on Tamron Adaptrall lenses for use with Canon, Contax, Fujica, Konica, Mamiya/Sekor, Minolta, Miranda, Nikon, Olympus, Praktica thread mount, Pentax, Rollei and Topcon cameras. Booklet also includes mini-lessons on depth of field, angle of view, perspective and zoom lenses. BERKEY MARKETING COMPANIES, INC.

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20—"Lighter! Smaller! Sharper!" A colorful brochure on Tamron F System lenses describes in detail the full line of Tamron fixed-mount lenses for Canon, Konica, Minolta, Nikon, Olympus and for Pentax screw-mount cameras. Also in the brochure is a mini-lesson on how to use lenses for maximum creative control. BERKEY MARKETING COMPANIES, INC.

21—"Konica Hexanon Automatic Exposure Lenses." A color brochure describing the full line of Konica Hexanon lenses ranging from 15mm full-frame fisheye to the 1000mm f8 mirror lens. Brochure also includes a brief story on how Konica lenses are manufactured. KONICA CAMERA COMPANY.

22—"Hexar Automatic Lenses." A colorful brochure describing the new line of budget priced Hexar lenses for use with Konica Autoreflex Cameras. KONICA CAMERA COMPANY.

72—Soligor T4 auto, fixed auto, preset and zoom lenses fully described in colorful brochure, including detailed specifications. AIC PHOTO INC.

73—New Soligor C/D Macro & Zoom lenses in full-color brochure showing performance data and complete specifications. AIC PHOTO INC.

LIGHTING EQUIPMENT

23—"Ascorlight Electronic Flash Systems." A fully-illustrated brochure describing the Ascorlight Auto 1600 electronic flash system and the complete line of "QC" professional lighting systems available from Ascor. BERKEY MARKETING COMPANIES, INC.

24—"An Invitation to Electronic Flash Photography." A beautiful, full-color brochure describing the complete line of Sunpak Electronic Flash Units and accessories; including Sunpak's new Nocto infrared flash and Marine underwater flash. BERKEY MARKETING COMPANIES, INC.

56—"The Hershey catalog features rechargeable 510 volt battery packs (Gel type), Sunlite 300A & 400A Automatic Flash, Sunlite 230, The Pro-lite 100, 200 & 300 Series for Studio use, and the Sun Ring. LEEDAL.

62—Braun Flash Unit Brochure outlining the shoe mount line. BRAUN NORTH AMERICA.

63—Braun Pro Flash Brochure describing our 900 series. BRAUN NORTH AMERICA.

71—Soligor electronic flash brochure giving full details and specifications on auto and manual units. AIC PHOTO INC.

PICTURE TAKING ACCESSORIES

25—"Slik Tripods and Tripod Accessories." A brochure describing the Slik line of lightweight/compact, System, Master, Master Pro and Studio Tripods and the 14 Slik Tripod Accessories. Also contains a mini-lesson on how to use a tripod to take professional-quality photographs. BERKEY MARKETING COMPANIES, INC.

26—Pamphlet describing the Tiltall tripod; its quality features and also unique story of its history. E. LEITZ INC.

28—Free catalog on interchangeable mask systems for special effects photos. Assorted masks and filters. CV PRODUCTS INC.

PROJECTORS, SLIDES & SCREENS

29—Four-color leaflet on the new Leitz Pradovit R 150 projector. E. LEITZ INC.

30—Projection Screen Selector in a colorful folder presents complete line of Da-Lite Slide and Movie Screens, shows what size to choose. DA-LITE SCREEN COMPANY.

31—Brochure describing Automatic Electric operated slide and movie projection screens, giving information on all sizes. DA-LITE SCREEN COMPANY.

32—A four-color brochure describing the full line of Kodak Carousel Projectors and all available accessories. EASTMAN KODAK COMPANY.

74—Full color brochure on Bauer dual 8 Sound projectors including the T60 stereo model. AIC PHOTO INC.

DARKROOM EQUIPMENT

34—Free catalog of black and white and color developing kits and darkroom accessories for do-it-yourself processing. CV PRODUCTS INC.

35—Brochure lists a compact, low-cost color print processor capable of processing 14 8x10s at one time. PHOTOGRAPHIC INSTRUMENTS CO.

36—Bulletin GL400 describes the new Model 400 Photographic Printing/Enlarging Time specifically designed for precision timing control of contact printer or enlarger. Automatic reset mechanism repeats the selected time interval as many times as desired. DIMCO-GRAY COMPANY.

37—Complete Darkroom Catalog from Unicolor features new line of moderately priced, high quality enlargers plus all available Color Chemistries, Color Print Papers, Film and Print Processors, Color Printing Aids, Darkroom Accessories and much more. UNICOLOR DIVISION.

38—Ethol Chemicals offers free technical bulletins on complete line of film, paper and x-ray developers. Also bulletin on agitation and a brightness range chart. ETHOL CHEMICALS INC.

39—Cibachrome is Here: describes the new 3 step 12 minute positive-positive system for making prints directly from slides. ILFORD INC.

40—Discover Ilford Black & White: describes the complete range of Ilford black and white films, papers and chemistry. ILFORD INC.

41—Ilford Ilfospeed: describes the 4 minute print system of resin coated paper and accompanying developer and fix. ILFORD INC.

43—"Pocket Guide: Omega Enlargers and Darkroom Accessories." A colorful booklet describing Omega Enlargers and darkroom accessories for both color and black-and-white printing and film developing. BERKEY MARKETING COMPANIES, INC.

57—Beseler Photo Marketing is offering a 12-page full color booklet entitled Color by Beseler Chemistry & Processing Equipment. BESELER PHOTO MARKETING.

65—Patterson full line brochure. Illustrated 20-page brochure describing the entire line of Patterson Darkroom Accessories. BRAUN NORTH AMERICA.

75—Soligor/Jobo introduces the "darkroom source". Tanks, reels, film loaders, washers, graduates, paper safes, etc. Amateur and professional equipment for processing black-and-white or color film. AIC PHOTO INC.

MISCELLANEOUS

44—New 36-page brochure on enlargers, darkroom items, tripods, unipods, lighting equipment, copy stands and lights, illuminated slide copier. TESTRITE INSTRUMENTS CO.

45—Kodak Films! A brochure which lists the most popular Kodak films available for 35mm photography. EASTMAN KODAK CO.

47—"Gossen—One of the World's great names." A full-color brochure describes the full line of Gossen precision exposure meters and also describes the unique photographic applications many of these meters have. BERKEY MARKETING COMPANIES, INC.

59—Falcon Photographic Products is offering a 4-page booklet featuring their full line of products including Dust-Off, Chemistry bottles, RC Drying System and display products. FALCON SAFETY PRODUCTS.

66—Hasselblad—Landscape Photography. A 20-page four-color illustrated handbook on how to produce outstanding landscapes. BRAUN NORTH AMERICA.

67—Hasselblad—Wildlife Photography. A 24-page four-color illustrated handbook on how to produce outstanding landscapes. BRAUN NORTH AMERICA.

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was almost broke! "I had no physical cash. I had the *concept of cash* in my pocket. It's true if I wanted something, money would not have stood in my way. I use the pocketbook when it is the *only* method of obtaining *exclusivity*. There's a time and a place when you are taking something off the market. But with or without the authorization of the *Post*, I felt the authority was inside me, my own conscience. If the *Post* had said to me, 'Where do you get the goddamn authority to bid and buy those pictures without calling,' you know what my answer would have been? 'I am not a photographer who works for you . . . I am a photographer who has been hired to deliver a product. I made a business decision and if you don't like the decision I made, don't hire me again, because you're not hiring me to take pictures, you're hiring me to deliver a story.'"

After the problems of Morgan & Morgan put him in debt, Schiller turned again to journalism for immediate cash. He covered the Patty Hearst trial for *Time* and came away from the assignment feeling again, as at *The Fight*, that he didn't belong. "But this time, there was also a feeling of frustration . . . the kind of frustration all of us *old-timers* who worked for *Life* and *Look*, the *Satevepost*, feel these days. I was shooting like I shot for *Life* in the old days . . . every picture I shot was shot virtually as a double truck! I didn't comprehend the level of photography at *Time*. Their requirements seemed minimal each week compared to the magnitude, the in-depth photography I was doing. Because of my relationship with Bailey, I was working on a slightly different level than 99 percent of the other photographers. They were all part of the same group. Through my ingratiating myself with both defense and prosecution, I obtained certain knowledge, but my experience and knowledge was never used by the magazine. They weren't even interested in an exclusive Patty Hearst interview.

"After three weeks on the assignment, I looked at the way they were using my pictures and I said . . . this is ridiculous . . . it surprised me as a creative person. All that money they were spending. The interest was more in a day-to-day reporting job and one-column pictures. You can't afford Schiller to shoot one-columns . . . obviously *Time* and other magazines today can't afford my experience. You know, I look at John Zimmerman going out and shooting the winter Olympics

and I know he worked his backside off and there's one little picture 12 centimeters wide. It's disgraceful for John Zimmerman's talent. My problem is, I refuse to be put in the limitations of my market . . . and that's why I am so insecure now in my photography . . . more insecure than I was 10 years ago."

"I am an old man in photography. I walked into an art director's office the other day and he didn't know who Eugene Smith was and he didn't know me . . . that's got to make you awfully insecure. There's no form of communication there anymore. That's why I am working in movies now. I can communicate again. Do you realize the excitement for me working with a writer to understand drama and story development and to take words and put them into images and to take the images I have had in my head and try to explain those in the form of words with a writer? That's like a baby reaching for the crib straps . . . that's the excitement I had 15 years ago fighting over the interpretation of a picture story!

"You live a lifetime with each movie you do. Deep down, I don't care much about publishing books! I am just publishing between movie jobs. I am terribly excited about movies, I am learning, it's an education. I just hope I don't make too many mistakes and never make that *big movie* I want to make. You see . . . I don't plan on being dead when I die . . . that's how I feel . . . I want to be alive when I die . . . I don't want to be dead at that point in my life. I am alive making movies."

Right now, a man with a piece of Schiller's movie action is Saul Levitt (writer of the Andersonville trials), who is working with Schiller on ABC's three-hour *The Trial of Lee Harvey Oswald*, Schiller's next TV movie.



Schiller with actress Sally Struthers.

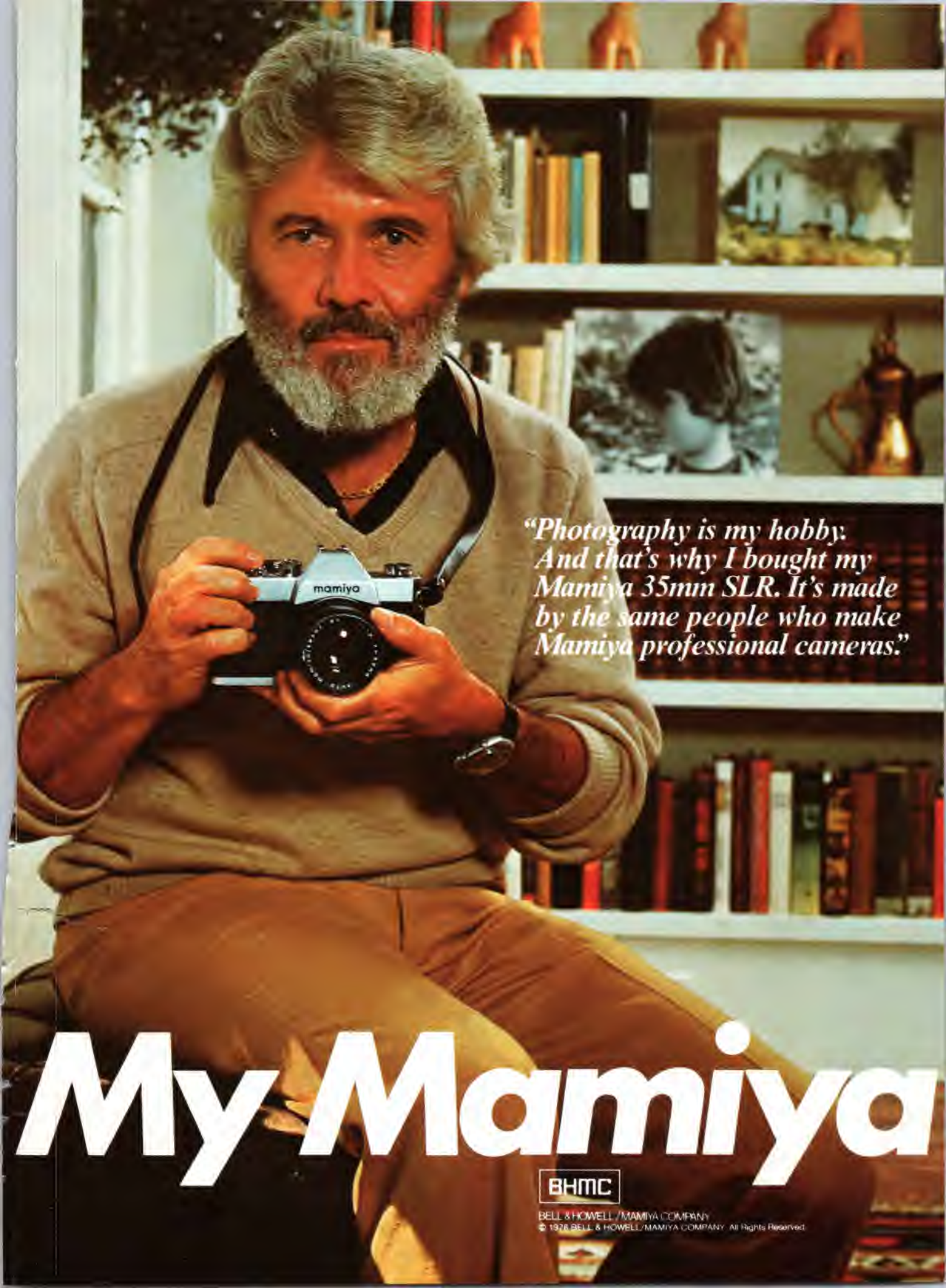
"I've never met anyone quite like him," says Levitt, "and I have met a lot of people in my days. He reminds me of Sam Spade and the Maltese Falcon who always just stopped short of going over the line to the other side marking him as no good. Larry is delicately balanced in a society that pays people to be aggressive, pushy, to lie and to connive, to get away with it, to make it, and somehow he knows how to do those things—to manipulate, to move, but at the same time serve another purpose with an interest in getting something very good."

"I sometimes feel he computes enormous and complex situations for the purpose of getting out of them and this becomes the push-pull of his life. Like someone making knots so that his activity consists of trying to unravel the knots. I have a feeling about California Jews, anyway. It's a very strange and personal feeling. California life represents an uprootedness and a certain amoral quality. To the Jews, coming from a very rooted culture, the life in California creates havoc in the normal sense and Larry reminds me—and I don't want anyone to think I mean Larry alone—of a floating plant whose roots are in the air but still manages to survive in some manner . . . uprooted and floating . . . that's what I get out of Larry. These California people take on that coloration out there and go in for *surface striving* and lose a connection in any deep way to things. It becomes superficial. Larry comes from that and he has all that free-booting adventurism that they have out there; yet there is that need to connect with something more deep . . . that's what he's doing with his life. He's like a writer without hands."

When I left Schiller in Los Angeles, I had taken a long look at his *Mercedes 450 SLC* and said, "I'll believe you're really in trouble when you have to get rid of the Mercedes." A few days later, he called to see how the story was coming along. "You know why I am taking so much time on the interview?" he asked. "It's not ego . . . it's just that I want to see something good appear in a photographic magazine—something with some depth." And he added, "By the way . . . I just got rid of the Mercedes!" After a pause, he said, "It was due for a big maintenance job anyway." "But what are you going to use for transportation?" I ventured to ask. "Oh, I traded it for a Jaguar . . ."

Three thousand miles away, there was a smile on Schiller's face.





*"Photography is my hobby.
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Mamiya 35mm SLR. It's made
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THE NIKON F2 WITH MOTOR DRIVE THE COMBINATION THAT KEEPS YOUR MIND, YOUR EYE AND YOUR MIND'S EYE ON THE IMAGE.



Photojournalism, advertising, fashion, travel, nature, —even space flight—whatever the specialty, Nikon is the camera of choice today, just as it has been these many years. And for a majority of the pros, a motor drive is as essential a part of the camera as the Photomic meter/finder.

For it keeps your eye at the finder and on the subject. Your vision concentrated on what the photograph should be. The combination is so comfortable, so perfectly balanced that you can keep it at your eye through a whole roll. Then the motor will rewind the film for you (and even leave the tongue out for automatic processing if you have the optional MF-3 back). And you also have the option of motor-driven sequences at up to five frames per second. And remote photography for anything from shy animals to space blastoffs.

The combination is typical of Nikon. Of a camera body which is uniquely versatile. Of a system which is unquestionably the most complete and the most time-proven in 35mm photography. Adding any component

of the system transforms it from an accessory to an integral part of the camera. With the motor drive, for example, the camera continues to be beautifully balanced, just as comfortable as without it. And it functions without wires or separate packs. It sits securely on a flat surface. That these things are not true of others is proof of the value of experience: Nikon perfected motor drive way back in 1957.

So is ruggedness. Nikon is built to take the punch of a motor drive. The motor drive is built to take the same abuse a working pro will give it.

There is one other result of Nikon's unparalleled record with motor-drives: a waiting list. We simply can't make them quite fast enough, but we are trying. So get on your dealer's list. You'll find it worth the wait...and one of the best reasons for owning a Nikon F2!

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